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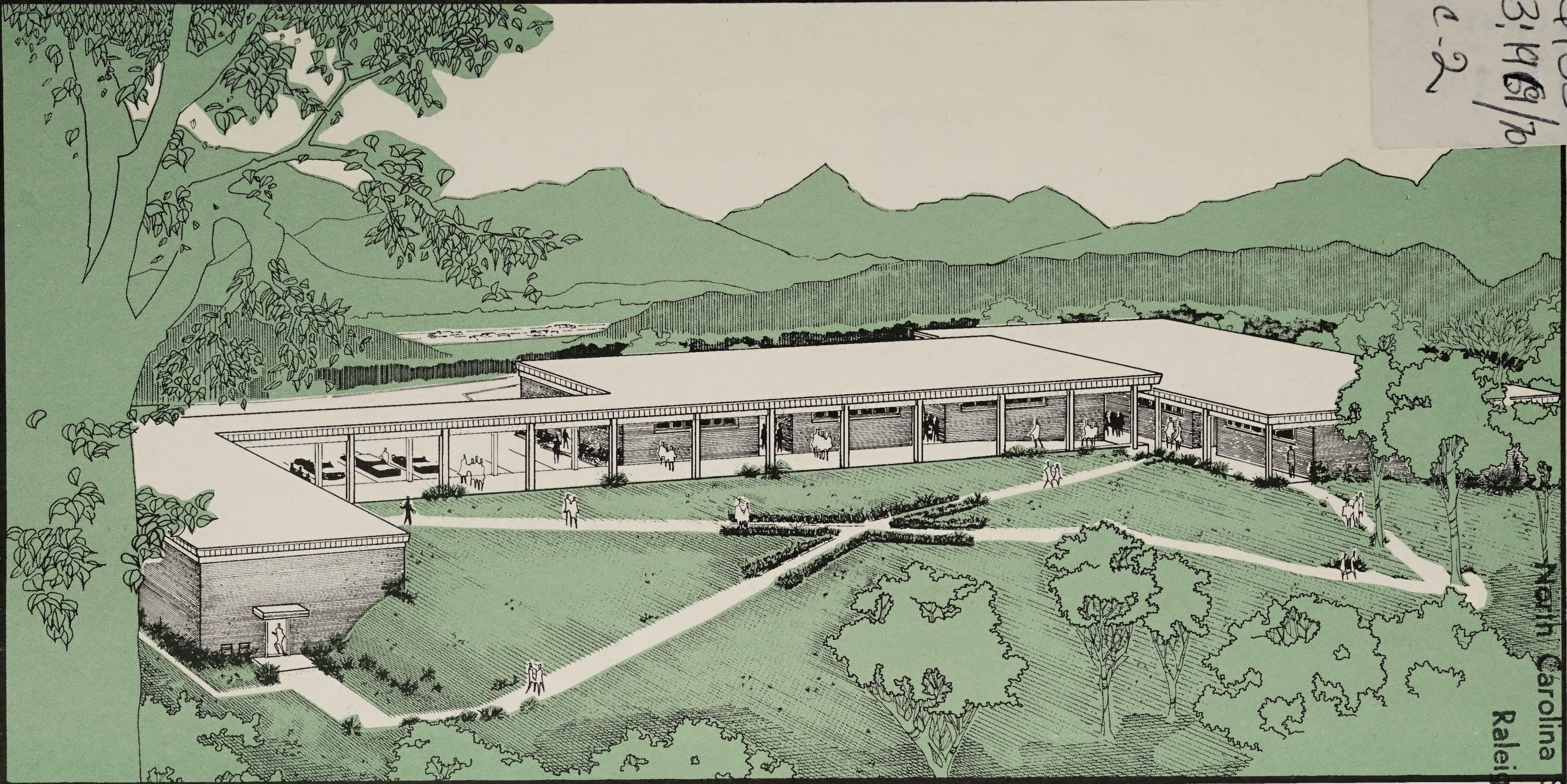

McDOWELL TECHNICAL INSTITUTE

1969—1970 ANNOUNCEMENTS

NORTH CAROLINA DEPARTMENT OF COMMUNITY COLLEGES

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McDOWELL TECHNICAL INSTITUTE

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Catalogue of Courses
Day and Evening School

Volume 4 Announcements for 1969 — 70 School Year

MARION, NORTH CAROLINA 28752

Academic Calendar . . . .

1969

FALL QUARTER	Registration	September 8 & 9
	Freshman Orientation	September 10
	Day Classes Begin	September 11
	Night Classes Begin	September 11
	Last Day of Registration	September 24
	End of Fall Quarter	November 26
WINTER QUARTER	Registration	December 1
	Day Classes Begin	December 2
	Night Classes Begin	December 2
	Last Day of Registration	December 10

1970

	End of Winter Quarter	February 27
SPRING QUARTER	Registration	March 6
	Day Classes Begin	March 9
	Night Classes Begin	March 9
	Last Day of Registration	March 18
	End of Spring Quarter	May 26
SUMMER QUARTER	Registration	June 5
	Day Classes Begin	June 8
	Night Classes Begin	June 8
	Last Day of Registration	June 12
	End of Summer Quarter	August 16

HOLIDAYS	Thanksgiving Holidays	November 27, 28, 1969
	Christmas	December 22 – January 1
	Easter	Good Friday, March 27 Easter Monday, March 30, 1970
	Independence Day	July 1-5, 1970

1969

	S	M	T	W	T	F	S		S	M	T	W	T	F	S
JAN.				1	2	3	4	JULY			1	2	3	4	5
	5	6	7	8	9	10	11		6	7	8	9	10	11	12
	12	13	14	15	16	17	18		13	14	15	16	17	18	19
	19	20	21	22	23	24	25		20	21	22	23	24	25	26
	26	27	28	29	30	31			27	28	29	30	31		
FEB.							1	AUG.						1	2
	2	3	4	5	6	7	8		3	4	5	6	7	8	9
	9	10	11	12	13	14	15		10	11	12	13	14	15	16
	16	17	18	19	20	21	22		17	18	19	20	21	22	23
	23	24	25	26	27	28			24	25	26	27	28	29	30
									31						
MAR.							1	SEP.		1	2	3	4	5	6
	2	3	4	5	6	7	8		7	8	9	10	11	12	13
	9	10	11	12	13	14	15		14	15	16	17	18	19	20
	16	17	18	19	20	21	22		21	22	23	24	25	26	27
	23	24	25	26	27	28	29		28	29	30				
	30	31													
APR.			1	2	3	4	5	OCT.				1	2	3	4
	6	7	8	9	10	11	12		5	6	7	8	9	10	11
	13	14	15	16	17	18	19		12	13	14	15	16	17	18
	20	21	22	23	24	25	26		19	20	21	22	23	24	25
	27	28	29	30					26	27	28	29	30	31	
MAY					1	2	3	NOV.							1
	4	5	6	7	8	9	10		2	3	4	5	6	7	8
	11	12	13	14	15	16	17		9	10	11	12	13	14	15
	18	19	20	21	22	23	24		16	17	18	19	20	21	22
	25	26	27	28	29	30	31		23	24	25	26	27	28	29
									30						
JUNE	1	2	3	4	5	6	7	DEC.		1	2	3	4	5	6
	8	9	10	11	12	13	14		7	8	9	10	11	12	13
	15	16	17	18	19	20	21		14	15	16	17	18	19	20
	22	23	24	25	26	27	28		21	22	23	24	25	26	27
	29	30							28	29	30	31			

1970

	S	M	T	W	T	F	S		S	M	T	W	T	F	S
JAN.					1	2	3	JULY				1	2	3	4
	4	5	6	7	8	9	10		5	6	7	8	9	10	11
	11	12	13	14	15	16	17		12	13	14	15	16	17	18
	18	19	20	21	22	23	24		19	20	21	22	23	24	25
	25	26	27	28	29	30	31		26	27	28	29	30	31	
FEB.	1	2	3	4	5	6	7	AUG.							1
	8	9	10	11	12	13	14		2	3	4	5	6	7	8
	15	16	17	18	19	20	21		9	10	11	12	13	14	15
	22	23	24	25	26	27	28		16	17	18	19	20	21	22
									23	24	25	26	27	28	29
									30	31					
MAR.	1	2	3	4	5	6	7	SEP.			1	2	3	4	5
	8	9	10	11	12	13	14		6	7	8	9	10	11	12
	15	16	17	18	19	20	21		13	14	15	16	17	18	19
	22	23	24	25	26	27	28		20	21	22	23	24	25	26
	29	30	31						27	28	29	30			
APR.				1	2	3	4	OCT.					1	2	3
	5	6	7	8	9	10	11		4	5	6	7	8	9	10
	12	13	14	15	16	17	18		11	12	13	14	15	16	17
	19	20	21	22	23	24	25		18	19	20	21	22	23	24
	26	27	28	29	30				25	26	27	28	29	30	31
MAY						1	2	NOV.	1	2	3	4	5	6	7
	3	4	5	6	7	8	9		8	9	10	11	12	13	14
	10	11	12	13	14	15	16		15	16	17	18	19	20	21
	17	18	19	20	21	22	23		22	23	24	25	26	27	28
	24	25	26	27	28	29	30		29	30					
	31														
JUNE		1	2	3	4	5	6	DEC.			1	2	3	4	5
	7	8	9	10	11	12	13		6	7	8	9	10	11	12
	14	15	16	17	18	19	20		13	14	15	16	17	18	19
	21	22	23	24	25	26	27		20	21	22	23	24	25	26
	28	29	30						27	28	29	30	31		

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President's Message . . .

Good education must develop citizens who work as well as play; produce as well as consume; create as well as appreciate. Vocational and Technical education for youth and adults, is playing a major role in reaching these objectives. Preparation for work, through the Community Colleges, Technical Institutes, and Industrial Education Centers of North Carolina provide functional education for North Carolina citizens, developing occupational competency along with social and civic responsibilities.

The Community College system in North Carolina is functioning in two important ways to justify North Carolina's faith in education. It is making educational programs more attractive and meaningful for a larger number of youths. At the same time, areas of instruction develop the basic skills and technical knowledge necessary to increase the productive capacity of workers, upon which depends North Carolina's industrial growth and development.

John A Price

John A. Price, *President*
McDowell Technical Institute

Introduction . . . .

PURPOSE

McDowell Technical Institute was established to serve the people and industry of this area by providing a comprehensive post-high school education program. Available are programs in technical, business, vocational-trade, adult education, upgrading, cultural and avocational courses. In addition, guidance services are available for both in-school and out-of-school citizens.

The Institute seeks to develop the skills, knowledge, abilities, and attitudes of each student for entry and progress within an occupational field. For employed persons courses are designed to upgrade and increase their present skills and knowledge.

In addition, McDowell Tech provides an opportunity for all adults to further their basic elementary and high school education, to create and develop cultural and avocational interest, and to acquire knowledge and habits required for more effective citizenship and family living.

Administration and Faculty . . . .

THE BOARD OF TRUSTEES

Vernon T. Eckerd, *Chairman*
Sara T. Ballew, *Vice-Chairman*
John A. Price, *Secretary*

Charles A. Turner
Neal Morris
Culver R. Dale

Paul Story
Gale Wade
James E. Johnson

THE STAFF PERSONNEL

John A. Price	*President*
Jerry L. Van Dyke	*Director of Vocational Technical Program*
Thomas L. Blackburn Jr.	*Director Student Personnel*
Robert Knox	*Director of Extension*
James V. McMahan	*Learning Lab Coordinator*
Mrs. Katherine Young	*Bookkeeper*
Mrs. Ruth Hughes	*Secretary*
Mrs. Mildred Reese	*Secretary*

THE FACULTY

Charles E. McKinney
Business Administration

Janet G. Estes
Business

Ann E. Poovey
Business

Neal Waters
Welding

C. B. Branson
Mechanical Drafting

James R. Brown
Auto Mechanics

Ben Burril
Electrical Installation & Maintenance

Pete Hamlin
Auto Body Repair

Programs of Study . . . .

TECHNICAL DIVISION

Courses offered in the technical division are designed to meet an increasing demand for high level industrial skills in North Carolina. Students entering the Technical division are required to meet educational and aptitude standards appropriate to the course chosen. Such standards require a firm educational base and a level of maturity expected of adults.

Students who successfully complete courses in this division will be prepared to offer prospective employers the training, knowledge, and skill necessary to work as an Industrial Technician. More time will be required to attain such a degree of proficiency than would be necessary in the less exacting trade courses. Applicants for the technical division will therefore be urged to enroll for the full-time program.

TRADE DIVISION

Courses in the trade division place emphasis on training in those manipulative and mental skills applicable to the particular curriculum in which the student is enrolled. Students work under close supervision to obtain skills on a level acceptable to industry.

EVENING PROGRAMS

In addition to the full-time programs offered during the day, most of the same curricula are offered on a part-time basis in the evening. These classes meet Monday through Thursday for a total of fifteen hours a week.

Students who enroll in these programs generally work at full time jobs during the day.

Upon successful completion of these evening courses, the A.A.S. degree is conferred in the technical areas while a diploma is awarded in the trade areas.

EXTENSION DIVISION

Short term courses are provided for men and women who though employed, seek to upgrade, update, and generally enhance their individual knowledge and performance. Also available are supervisory-level courses designed to stimulate those individuals who aspire to advance their knowledge in the fields of management, and firemanship training for volunteer-firemen concerned with improving their skill.

Training for new and expanding industry constitutes an important segment of the extension division. In cooperation with the industry involved, workers may be trained for specific occupational areas.

GENERAL ADULT EDUCATION

To meet the challenge of the space age, the curriculum of adult education will provide studies in subjects as current as the morning headlines and as old as organized knowledge. Any adult, 18 years of age or older, is eligible to enroll in this area. Today's program stresses training or retraining for jobs or upgrading in business or industry, homemaking and parent education, areas of instruction of special community interest, and a high school diploma program for those adults who wish to attain a high school equivalent diploma.

Admissions . . . .

GENERAL

In keeping with the philosophy of McDowell Technical Institute and the Department of Community Colleges, current admissions procedures reflect the "Open Door" policy. Unlike most colleges, the Institute does not impose restrictive standards for admittance.

Admission to McDowell Tech as a school is open to practically all individuals 18 years of age or older. With a series of programs covering basic adult education (grades 1 through 8), high school subjects leading to a high school diploma, pre-curriculum preparatory courses, as well as technical, business, and trade training, McDowell Tech will admit all applicants to the school.

An applicant, however, may not necessarily be immediately admitted to the program of his or her choice. Selected requirements must be met prior to admission to a specific curriculum. Deficiencies can and must be made up prior to beginning the selected course of study. Deficiencies can be completed in courses available at McDowell Tech. Thus, to some extent, quality can be retained in individual curricula and each applicant can be placed within a program in which he is capable of making satisfactory progress.

Before a student registers for a specific curriculum program, aptitude and placement tests are administered and counseling may be arranged. Thus an evaluation is made of the applicants potential for success in the program of his choice.

NOTIFICATION OF ACCEPTANCE

Qualified applicants for each program will be accepted as admissions procedures are completed (on a first-come, first-serve basis). Prospective students will be notified by letter of this acceptance immediately after all required information is received.

SPECIFIC PROCEDURES

ALL CURRICULUM PROGRAMS. Each applicant is responsible for fulfilling the following steps to admission in a pre-employment business technology or vocational trade program:

1. APPLICATION. Complete and submit with a $5.00 deposit the standard application form (available from high school counselor or MTI). The deposit is not refundable but will be applied to tuition fees the first quarter the applicant is enrolled.
2. TESTS. Complete the Placement and Aptitude Test Battery.
3. TRANSCRIPTS. Submit transcripts of high school and post-high school education to the Institute.
4. INTERVIEW. Schedule, where deemed necessary, a personal interview with the Director of Student Personnel.

Upon receipt of the above information, data is thoroughly reviewed. If success appears possible and probable based upon (1) minimum test scores, (2) sufficient and compatable educational requirements, and (3) related personal information, the applicant is admitted to a selected course of study.

TRANSFER

McDowell Technical Institute will accept credits from all institutions within the Department of Community Colleges as well as from other accredited colleges, technical institutes, business and vocational schools. Course grades of "C" or better only will be accepted and such courses must parallel the content of McDowell Tech courses.

Degrees, Diplomas and Certificates . . . . . .

DEGREE PROGRAMS DEFINED

McDowell Technical Institute awards the ASSOCIATE DEGREE in APPLIED SCIENCE (A.A.Sc.) upon completion of a two-year program of study in the business administration division.

DIPLOMA PROGRAMS DEFINED

The McDowell Technical Institute will award a State Diploma in all Trade Curriculums. This diploma will be granted in the name of the North Carolina State Board of Education when all requirements for a graduation have been satisfied.

CERTIFICATES

Certificates are issued in the name of the McDowell Technical Institute to students who successfully complete any short term program or course.

Degree and Diploma Requirements for Graduation . . . .

The following list is established as minimum requirements for the Associate in Applied Science degree and State Diploma.

1. Complete all course requirements as outlined by curriculums, and earn at least a 2.0 grade point average in courses presented for graduation.
2. Application for graduation must be submitted to the Counselor one quarter prior to completion of course requirements.
3. Prospective graduates must be recommended by the chairman of the department in which a student completes his or her major work.
4. Fulfill all financial obligations to the Institute.
5. Be present for graduation exercises which are held during the latter part of August each year. Exceptions to this requirement in cases of unavoidable absences, may be granted by the Director.

GRADUATION REQUIREMENTS

Upon successful completion of a prescribed course at the Center, students will be allowed to graduate. Successful completion means that all grades must be passing or better. Students who fail individual subjects or have incompletes will be required to make up such deficiencies before being allowed to graduate.

Degrees and diplomas will be awarded those finishing technical and trade curriculums.

Certificates of completion will be granted all students successfully completing short-term courses.

The McDowell Technical Institute grants diplomas and certificates in the name of the North Carolina State Board of Education.

QUALITY POINTS

At the end of each quarter quality points are assigned in accordance with the following formula. (The minimum grade-point ratio for graduation is 2.00 or an average grade of C.)

A — 4 quality points per credit hour
B — 3 quality points per credit hour
C — 2 quality points per credit hour
D — 1 quality point per credit hour
Grades of F, WP, WF, and I carry no quality points.

Quality ratings are determined by dividing the total number of quality points by the number of hours attempted. If a course is repeated, the last grade will be used in determining a student's hour-quality point ratio. A ratio of 2.00 indicates that the student has an average of C; above 2.00 indicates that he has an average above C; below 2.00 indicates that he has an average below C.

GRADING SYSTEM

Grades will be issued to all students at the end of each quarter by the following system:

A	93–100	Excellent
B	86–92	Above Average
C	78–85	Average
D	70–77	Passing
F	Below 70	Unsatisfactory
WP	Withdrawal passing	
WF	Withdrawal failing	
I	Incomplete	

Incomplete grades must be made up within six weeks of the following quarter.

Fees and Refunds

Tuition Fee:

Full-time students (per quarter)	$ 36.00
Part-time students (per credit hour)	3.00
Graduation	10.00
Student activity fee	5.00

In addition to the above charges, students must buy the textbooks prescribed in various areas. Students will be advised in advance of the approximate total cost involved.

Under no circumstances will the $5.00 registration fee be refunded. Tuition refunds for full-time students shall not be made unless the student is compelled to withdraw for unavoidable reasons. In such cases, 2/3 may be refunded, if the student withdraws within 10 days after the beginning of the term. No refund may be given after 10 days.

REFUND POLICY FOR VETERANS AND WAR ORPHANS

The following refund policy will be applicable to persons enrolled under provisions of Title 38, U. S. Code, as amended:

The institution has and maintains the following policy for the refund of the unused portion of tuition, fees, and other charges in the event the person fails to enter the course or withdraws or is discontinued therefrom at any time prior to completion:

The amount charged to the persons for tuition, fees, and other charges for a portion of the course will not exceed the approximate pro rata portion of the tuition, fees, and other charges that the length of the completed portion of the course bears to its total length.

General Information . . . .

WORK STUDY PLAN

The School participates in the work study program of 1963 Vocational Education Act. Students may work for the school a maximum of fifteen (15) hours per week while in school. The extent of this program is, of course, determined by the amount of funds available.

STUDENT INSURANCE

Certain risks are inherent in any work involving regular contact with mechanical and electrical equipment. While stringent precautions will be taken to insure safety, it is felt to be in the interest of all students to provide some measure of insurance protection.

A group policy providing the desired insurance protection will be maintained in effect by the School and all students will be REQUIRED to subscribe to such coverage. The cost of accident insurance to the student will be approximately $2.50 per year.

ATTENDANCE

Regular attendance is imperative if a student is to get full benefit of a course of study, therefore absences must be kept to a minimum. Upon returning to school after missing one or more classes, students must get absences excused by contacting the Student Personnel Office. Absences not excused within three days after the student returns to school will be recorded as unexcused. Unexcused absences totaling more days than two-thirds the number of quarter hour credits allowed for the course will result in a penalty of 2 points per absence from the accumulated class grade average. An absence the first day of a quarter, or on the day before or after a holiday will be treated as an unexcused absence with loss of grade points unless prior permission has been granted by the Student Personnel Office.

WITHDRAWALS

Students who must withdraw passing, because of illness or personal hardships, may re-enter the course as a beginning student provided that such re-entry is taken upon the next immediate offering.

Students may be dismissed from school for failure to maintain passing grades and for infraction of rules and regulations that apply to student conduct. Students will be expected to conduct themselves at all times as mature adults. Those who do not respect the rights and privileges of others and fail to demonstrate a high regard for school property will be subject to dismissal.

"G. I. BILL" THE VETERANS READJUSTMENT BENEFITS ACT OF 1966

All programs being offered by the School at this time are approved for training under the so-called "Cold War G. I. Bill." Veterans desiring to train under the benefits of this bill must first establish their eligibility with the Veterans Administration. In general, Veterans who served in the Armed Forces since January 31, 1955, and who were discharged under conditions other than dishonorable, qualify for training under the bill. The amount of training permitted is determined by the number of months of service. Certain servicemen on active duty are also eligible for schooling under this bill. Interested servicemen should contact their Education Officer.

Veterans are admitted under the same admission requirements as other students. They pay tuition and attend school under the same regulations as others. The only difference between Veterans and other students is that they are paid monthly by the Veterans Administration, an amount determined by the hours attended and the number of dependents he has.

To be classified as a full-time student, a Veteran must attend 25 hours per week in a technical course and 30 hours per week in a trade program.

Full details on Veterans training programs may be obtained from any Veterans Service Office. The Veterans Service Office for McDowell County is located in the County Court House.

DRAFT DEFERMENT

Draft deferment forms are mailed to any student's Selective Service Board upon request after he registers for the first quarter. Any student enrolled is deferred under the same regulations as college students. The school is under obligation to notify the board should the student's attendance or quality of work become unsatisfactory.

COUNSELING SERVICES

A qualified counselor is available to assist students in selecting an appropriate course of study, to provide occupational and educational information and to discuss scholastic or personal problems which may arise.

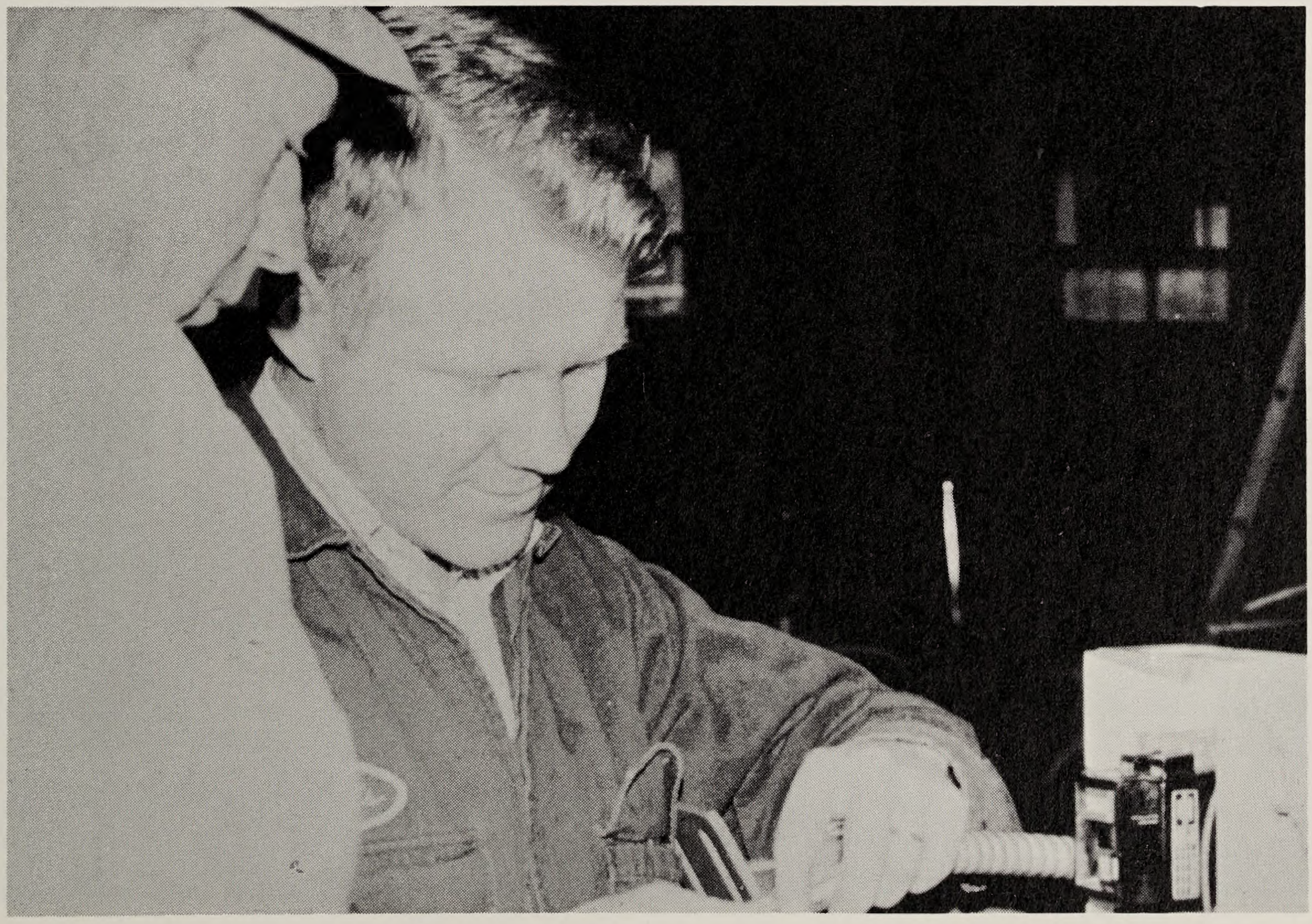
VOCATIONAL REHABILITATION

Vocational Rehabilitation is a program operated through the Division of Vocational Rehabilitation in cooperation with the North Carolina Department of Public Instruction and the Federal Office of the Vocational Rehabilitation Administration. The Division is financed by State and Federal funds. Vocational Rehabilitation offers such services as are necessary to enable a physically or mentally employment-handicapped person to become self-supporting. Financial assistance is available for training at the McDowell Tech. for eligible handicapped persons.

If a prospective student has a physical disability or is limited in his activity because of a disability he should contact the Division of Vocational Rehabilitation office nearest him. The Division Office for Western North Carolina is located in Asheville.

PLACEMENT SERVICE

The School provides a placement service by working with personnel mana-



gers in offices and industry in seeking employment. Industries that conduct their own recruitment program will be granted permission to interview students when requested.

STUDENT LOUNGE

A refreshment lounge equipped with a variety of vending machines is provided for the convenience of students and faculty.

SMOKING

Smoking will be confined to designated areas inside and outside the building. Food and drinks may not be carried into a classroom, shop or lab.

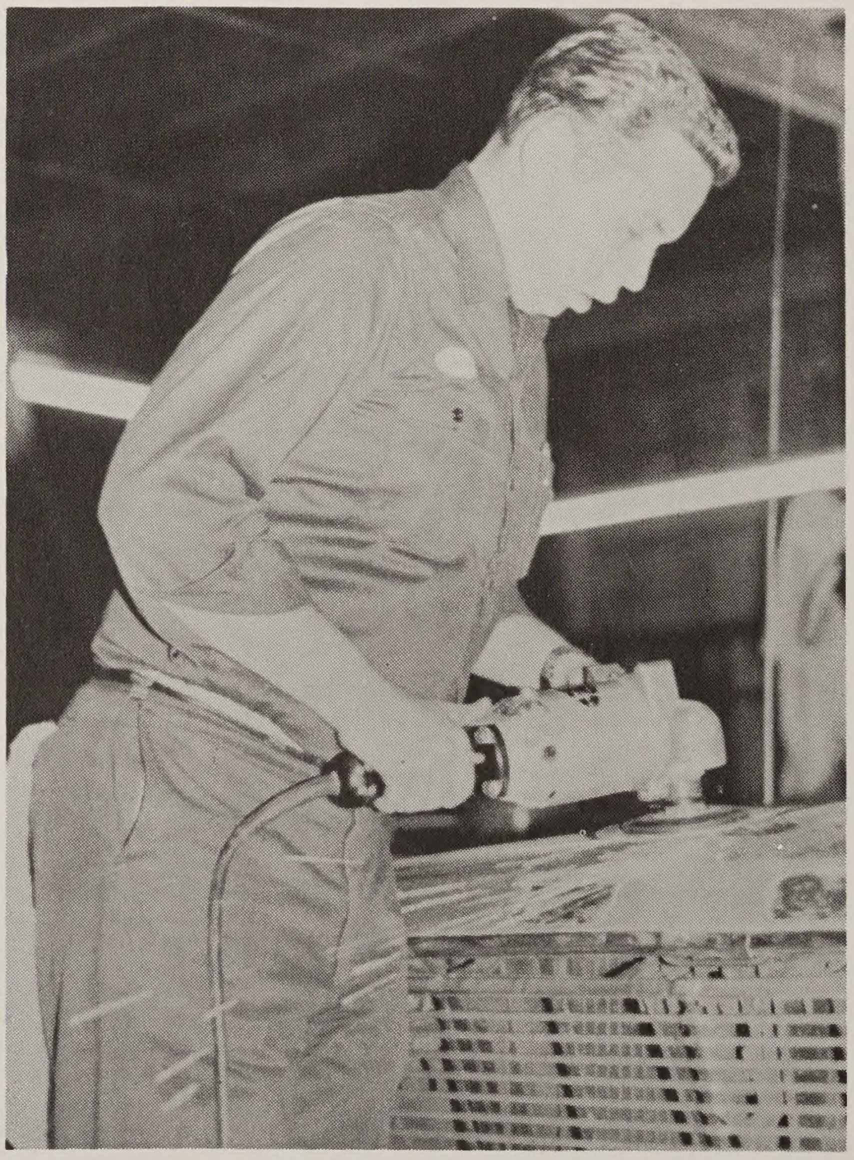
CONDUCT

Students will be expected to conduct themselves at all times as mature adults. Students who do not respect the rights and privileges and personal property of other students and who fail to demonstrate a high regard for school facilities and property will be subject to dismissal.

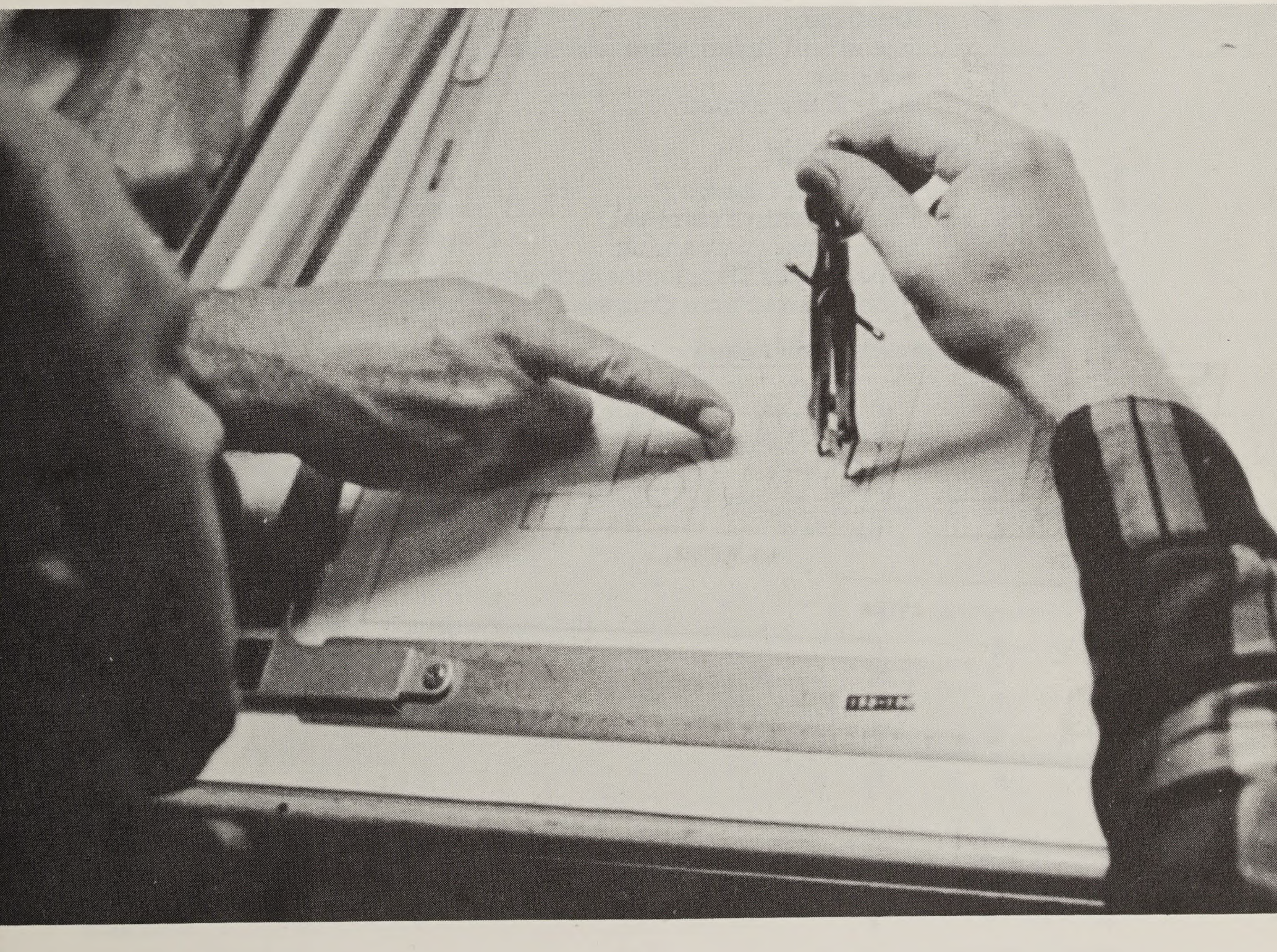
SUPPLEMENTAL COURSES

The contact hours shown in the catalog are minimal. It is a policy of this institution to permit students to enroll in additional subjects and laboratory work beyond those shown in the catalog in order to broaden their training.

When in any quarter the total weekly contact hours listed are fewer than twenty-five hours in a technical curriculum and fewer than thirty hours in a vocational trade curriculum, a student may enroll on request and with the approval of the institution for additional instructional hours to make up twenty-five hours per week in a technical curriculum or sufficient hours of attendance to make up thirty hours per week in a vocational trade curriculum.



CURRICULUM



Programs of Study

Technical Division

- Business Administration
- Traffic & Transportation
- Business Accounting
- Executive Secretarial

Vocational-Trade Division

- Auto Mechanics
- Business Secretarial
- Drafting
- Electrical Installation and Maintenance
- Welding
- Auto Body Repair

Other Offerings

- Extension Classes
- Firemanship Training
- New Industry Training
- Supervisory Development Training
- Other Short-Term Courses

Learning Laboratory

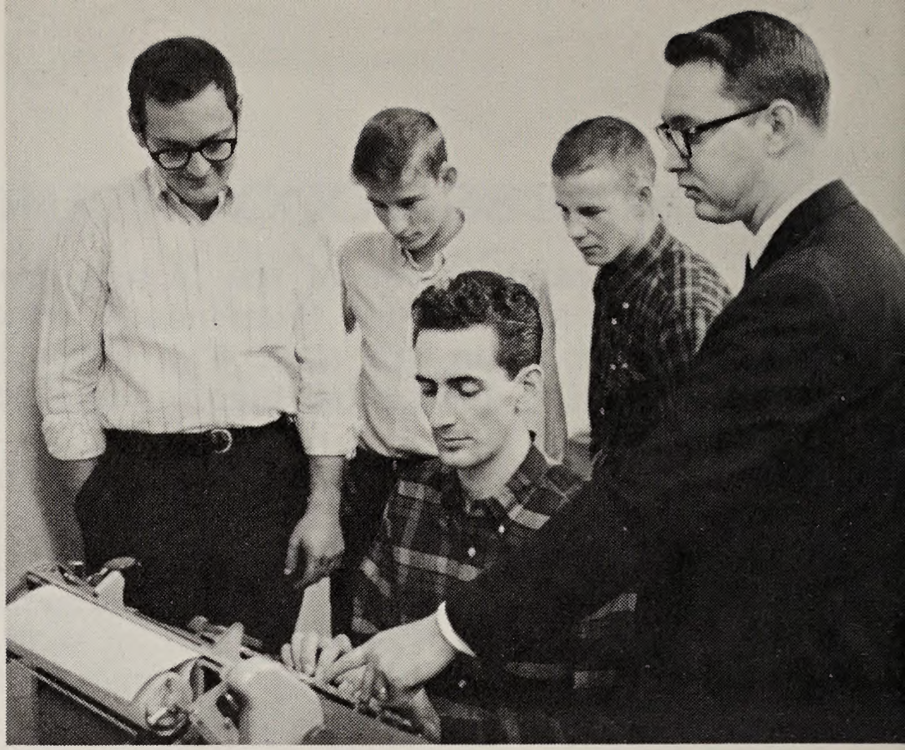
BUSINESS ACCOUNTING

Accounting is one of the fastest growing employment fields in America today. Because of this tremendous growth, there is an increasing need for trained people in this area. The Accounting Curriculum is designed to offer the necessary accounting theories and skills for entry into the accounting profession.

The duties and responsibilities of an accountant vary somewhat in different firms. Some of these duties are to record transactions, render periodic reports, maintain cost records, complete tax returns, audit the books, and advise management in areas of financial affairs.

The graduate of this curriculum may qualify for jobs in business and industry leading to one of the following accounting positions: accounting clerk, payroll clerk, or related occupations.

	Hours Per Week		
	Class	Lab	Qtr hrs.
FIRST QUARTER			
T-ENG 101 Grammar	3	0	3
T-BUS 102 Typewriting (or Elective) I	2	3*	3
T-Mat 110 Business Math	5	0	5
T-BUS 101 Intro. to Business	5	0	5
T-ECO 102 Economics I	3	0	3
	18	3	19
SECOND QUARTER			
T-ENG 102 Composition	3	0	3
T-BUS 120 Accounting I	5	2	6
T-ECO 104 Economics III	3	0	3
T-BUS 115 Business Law I	3	0	3
T-BUS 123 Business Finance I	3	0	3
	17	2	18
THIRD QUARTER			
T-ENG 103 Report Writing	3	0	3
T-BUS 124 Business Finance II	3	0	3
T-BUS 110 Office Machines I	2	2	3
T-BUS 121 Accounting II	5	2	6
T-BUS 116 Business Law II	3	0	3
	16	4	18
FOURTH QUARTER			
T-ENG 204 Oral Communication	3	0	3
T-EDP 104 Intro. Data Processing I	3	2	4
T-BUS 222 Accounting III	5	2	6
Elective	6	0	6
	17	4	19
FIFTH QUARTER			
T-ENG 206 Business Communication	3	0	3
T-BUS 223 Accounting IV	5	2	6
T-BUS 225 Cost Accounting	3	2	4
T-BUS 235 Business Management	3	0	3
Elective	3	0	3
	17	4	19
SIXTH QUARTER			
T-BUS 229 Taxes	3	2	4
T-BUS 269 Auditing	3	2	4
Social Science Elective	3	0	3
Elective	4	0	4
	13	4	15



Business Administration

PURPOSE OF CURRICULUM

With the increasing population and industrial development in this State, business has become more competitive and automated. Better opportunities in business will be filled by students with specialized education beyond the high school level. The Business Administration Curriculum is designed to prepare the student for employment in one of many occupations common to business. Training is aimed at preparing the student in many phases of administrative work that might be encountered in the average business.

The specific objectives of the Business Administration Curriculum are to develop the following competencies:

1. Understanding of the principles of organization and management in business operations.
2. Understanding our economy through study and analysis of the role of production and marketing.
3. Knowledge in specific elements of accounting, finance, and business law.
4. Understanding and skill in effective communication for business.
5. Knowledge of human relations as they apply to successful business operations in a rapidly expanding economy.

JOB DESCRIPTION

The graduate of the Business Administration Curriculum may enter a variety of career opportunities from beginning sales person or office clerk to manager trainee. The duties and responsibilities of this graduate vary in different firms. These encompassments might include: making up and filing reports, tabulating and posting data in various books, sending out bills, checking calculations, adjusting complaints, operating various office machines, and assisting managers in supervising. Positions are available in businesses such as advertising; banking; credit; finance; retailing; wholesaling; hotel, tourist and travel industry; insurance; transportation; and communications.

	Hours Per Week		
First Quarter	Class	Lab	Qtr hrs.
T-ENG 101 Grammar	3	0	3
T-BUS 102 Typewriting (or Elective)	2	3	3
T-MAT 110 Business Mathematics	5	0	5
T-BUS 101 Introduction to Business	5	0	5
T-ECO 102 Economics	3	0	3
	18	3	19

	Hours Per Week		
Second Quarter	Class	Lab	Qtr hrs.
T-ENG 102 Composition	3	0	3
T-BUS 120 Accounting	5	2	6
T-ECO 104 Economics	3	0	3
T-BUS 115 Business Law	3	0	3
T-BUS 123 Business Finance	3	0	3
	17	2	18
Third Quarter			
T-ENG 103 Report Writing	3	0	3
T-BUS 124 Business Finance	3	0	3
T-BUS 110 Office Machines	2	2	3
T-BUS 121 Accounting	5	2	6
T-BUS 116 Business Law	3	0	3
	16	4	18
Fourth Quarter			
T-ENG 204 Oral Communication	3	0	3
T-BUS 232 Sales Development	3	0	3
T-EDP 104 Introduction to Data Processing Systems	3	2	4
T-BUS 239 Marketing	5	0	5
Elective	3	0	3
	17	2	18
Fifth Quarter			
T-ENG 206 Business Communication	3	0	3
Social Science Elective	3	0	3
T-BUS 243 Advertising	3	2	4
T-BUS 235 Business Management	3	0	3
Elective	3	0	3
	15	2	16
Sixth Quarter			
Social Science Elective	3	0	3
T-BUS 229 Taxes	3	2	4
T-BUS 272 Principles of Supervision	3	0	3
T-BUS 271 Office Management	3	0	3
Elective	6	0	6
	18	2	19

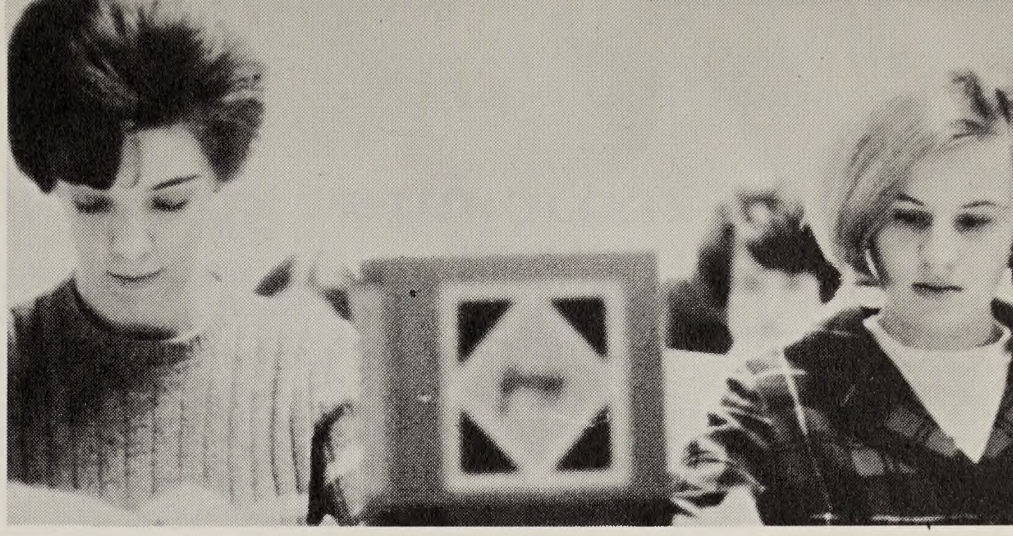
Business Secretarial

The demand for better qualified office personnel in our ever-expanding business, medical, legal, and industrial fields is becoming more acute. The purpose of this curriculum is to outline a program that will provide training in the accepted procedures required in each of these fields and to enable persons to become proficient soon after accepting employment.

This curriculum is designed to offer students the necessary secretarial and clerical skills in typing, business machine operation, dictation, transcription, accounting, business math, and personality development for employment in all fields of business.

Graduates of this program may be employed as a stenographer, a secretary, a typist, an accounting clerk, a filing clerk, a receptionist, or a general clerical worker. In addition to taking dictation and transcribing, the secretary may be given additional responsibilities such as meeting office callers or screening telephone calls. Positions may be found in such businesses as insurance companies, hospitals, doctors' offices, law offices, and industrial firms.

	Hours Per Week		
First Quarter	Class	Lab	Qtr hrs.
ENG 101 Grammar	3	0	3
BUS 110 Typewriting	5	5	6
BUS 109 Shorthand	5	5	6
MAT 112 Business Mathematics	5	0	5
	18	10	20
Second Quarter			
ENG 102 Composition	3	0	3
BUS 111 Typewriting	5	0	3
BUS 114 Shorthand	5	0	3
BUS 117 Office Machines	2	2	3
BUS 120 Accounting	5	2	6
	20	4	18
Third Quarter			
ENG 103 Report Writing	3	0	3
BUS 112 Typewriting	5	0	3
BUS 115 Shorthand	5	0	3
BUS 118 Office Machines	2	2	3
BUS 121 Accounting	5	2	6
	20	4	18
Fourth Quarter			
BUS 113 Typewriting	5	0	3
BUS 116 Shorthand	5	0	3
BUS 122 Filing	2	2	3
BUS 123 Correspondence	5	0	4
BUS 124 Office Procedures	5	0	4
	22	2	17



Executive Secretary

PURPOSE OF CURRICULUM

The demand for better qualified secretaries in our ever-expanding business world is becoming more acute. The purpose of this curriculum is to outline a training program that will provide training in the accepted procedures required by the business world, and to enable persons to become proficient soon after accepting employment in the business office.

The Executive Secretary Curriculum is designed to offer the students the necessary secretarial skills in typing, dictation, transcription, and terminology for employment in the business world. The special training in secretarial subjects is supplemental by related courses in mathematics, accounting, business law, and personality development.

JOB DESCRIPTION

The graduate of the Executive Secretary Curriculum should have a knowledge of business terminology, skill in dictation, and accurate transcription of business letters and reports. The graduate may be employed as a stenographer or a secretary. Stenographers are primarily responsible for taking dictation and transcribing letters, memoranda, or reports. The secretary, in addition to taking dictation and transcribing, is given more responsibility in connection with meeting office callers, screening telephone calls, and being an assistant to an executive. She may enter a secretarial position in a variety of offices in businesses such as insurance companies, banks, marketing institutions, and financial firms.

	Hours Per Week		
FIRST QUARTER	Class	Lab	Qtr hrs.
T-ENG 101 Grammar	3	0	3
T-BUS 102 Typewriting (Or Elective)	2	3	3
T-MAT 110 Business Mathematics	5	0	5
T-BUS 101 Introduction to Business	5	0	5
T-BUS 106 Shorthand (Or Elective)	3	2	4
	18	5	20
SECOND QUARTER			
T-ENG 102 Composition	3	0	3
T-BUS 103 Typewriting (Or Elective)	2	3	3
T-BUS 107 Shorthand	3	2	4
T-BUS 120 Accounting	5	2	6
T-BUS 115 Business Law	3	0	3
	16	7	19
THIRD QUARTER			
T-ENG 103 Report Writing	3	0	3
T-BUS 104 Typewriting	2	3	3
T-BUS 108 Shorthand	3	2	4
T-BUS 110 Office Machines	2	2	3
T-BUS 112 Filing	3	0	3
	13	7	16

	Hours Per Week		
	Class	Lab	Qtr hrs.
FOURTH QUARTER			
T-ENG 204 Oral Communication	3	0	3
T-BUS 206E Dictation and Transcription (Executive)	3	2	4
T-BUS 205 Advanced Typewriting	2	3*	3
T-BUS 211 Office Machines	2	2	3
T-EDP 104 Introduction to Data Processing Systems	3	2	4
	13	9	17
FIFTH QUARTER			
T-ENG 206 Business Communication	3	0	3
T-BUS 207E Dictation and Transcription (Executive)	3	2	4
T-BUS 214 Secretarial Procedures	3	2	4
General Business Elective	3	0	3
Elective	6	0	6
	18	4	20
SIXTH QUARTER			
Social Science Elective	3	0	3
T-BUS 208E Dictation and Transcription (Executive)	3	2	4
T-BUS 271 Office Management	3	0	3
Elective	6	0	6
	15	2	16

TRAFFIC AND TRANSPORTATION TECHNOLOGY

North Carolina, in its tremendous industrial growth, has a need for more highly trained and skilled personnel in the traffic and transportation industry. The purpose of this curriculum is to provide training in new techniques, and an understanding of the latest State and Federal regulations applicable to traffic and transportation, which should enable the student to accept employment in a higher-level job in the traffic and transportation industry.

The specific objectives of the Traffic and Transportation Curriculum are to develop: (1) understanding of the principles of organization and management in business operations and the traffic and transportation industry; (2) understanding and skill in effective communication for business; (3) understanding of the Interstate Commerce Act and related acts as they apply to traffic and transportation; and (4) understanding of the role traffic and transportation plays in the expanding business economy.

The graduate of this curriculum may seek career opportunities in the traffic and transportation industry as traffic representative, claims representative, dispatcher, rate analyst, and operational supervisor. A traffic representative is responsible for calling on the shipping public and selling the services of his respective company for their use. A claims representative renders and investigates claims for losses, shortages, damages, or overcharges on shipments of merchandise and adjusts claims. The dispatcher is responsible for dispatching men or equipment to prevent or rectify disruptions in service in all departments of a transportation system. The rate specialist determines rates, routes, and classifications applicable to merchandise or material shipped or received by common carrier. The responsibilities of the operational supervisor include the supervision of those activities that will assure the smooth and constant flow of the traffic through the terminal area.

This training, with additional experience, should qualify the student for positions as claims manager, operational manager, and manager of transportation terminals.

TRAFFIC AND TRANSPORTATION CURRICULUM

	Hours Per Week		
FIRST QUARTER	Class	Lab	Qtr hrs.
T-MAT 110 Business Mathematics	5	0	5
T-BUS 101 Introduction to Business	5	0	5
T-ECO 102 Economics	3	0	3
T-BUS 120 Accounting	5	2	6
	18	2	19
SECOND QUARTER			
T-ENG 101 Grammar	3	0	3
T-BUS 121 Accounting	5	2	6
T-BUS 115 Business Law	3	0	3
T-ECO 104 Economics	3	0	3
T-BUS 178 Traffic and Transportation	3	0	3
	17	2	18
THIRD QUARTER			
T-ENG 102 Composition	3	0	3
T-BUS 116 Business Law	3	0	3
T-BUS 179 Traffic & Transportation	3	0	3
T-BUS Business Elective	5	0	5
T-ECO 106 Economics of Transportation	3	0	3
	17	0	17

FOURTH QUARTER

	Hours Per Week		
	Class	Lab	Qtr hrs.
T-ENG 103 Report Writing	3	0	3
T-BUS 232 Sales Development	3	0	3
T-BUS 285 ICC Law	3	0	3
T-BUS 280 Traffic and Transportation	3	0	3
T-BUS 290 Motor Carrier	3	0	3
T-BUS 102 Typewriting or Elective	2	3	3
	17	3	18

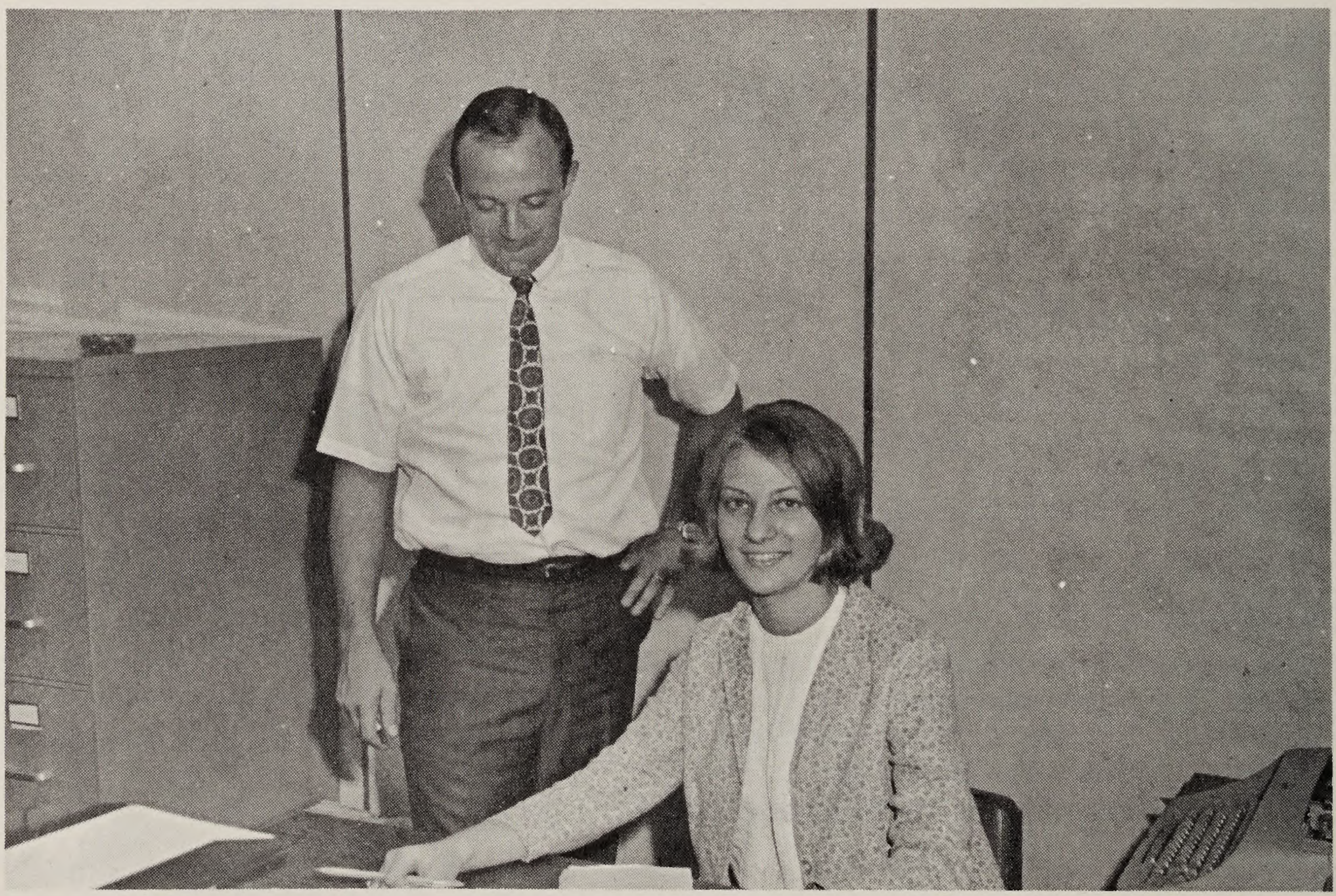
FIFTH QUARTER

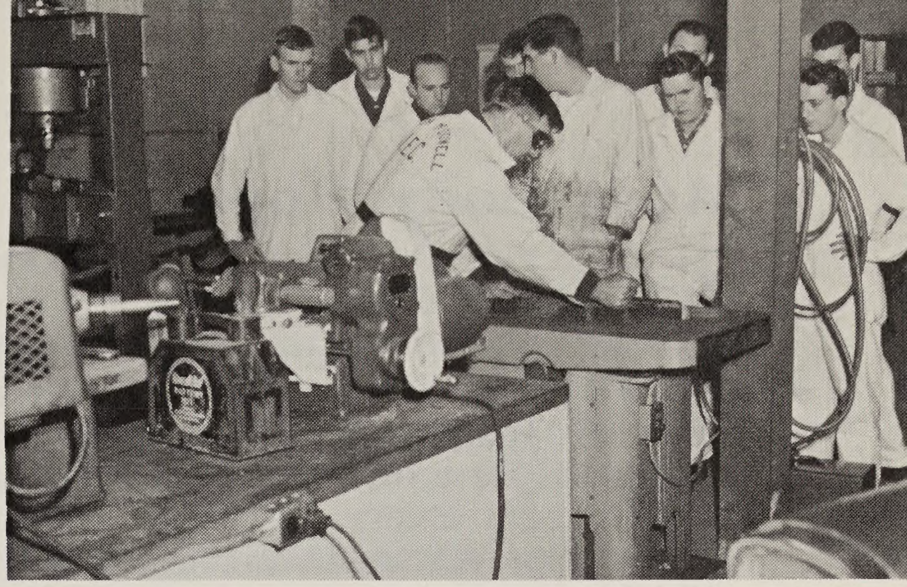
T-ENG 204 Oral Communications	3	0	3
T-BUS 286 ICC Law	3	0	3
T-BUS 291 Motor Carrier	3	0	3
T-BUS 281 Traffic and Transportation	3	0	3
T-SSC Social Science	3	0	3
T-BUS 110 Business Machines	2	2	3
	17	2	18

SIXTH QUARTER

T-BUS 287 ICC Law	3	0	3
T-BUS 295 Traffic Claims	3	0	3
T-BUS 299 Traffic Management	3	0	3
T-SSC Social Science	3	0	3
T-ENG 206 Business Communications	3	0	3
T-BUS Business Elective	2	3	3
	17	3	18

"MTI Secretarial Graduate at Work"





Auto Mechanics

This is a one-year program providing a thorough training in the theoretical as well as manual skills in servicing, testing and diagnosing. All phases of the electrical system, the power plant, braking system, the power train will be studied.

The courses are arranged in a sequence that gives the student the required technological and special courses as they are needed to coordinate his laboratory experiences.

Emphasis is placed on the mechanical parts and operation of the various automobile units. Trouble shooting and servicing of the live project is also stressed.

OCCUPATIONAL OPPORTUNITIES

Auto Mechanics, Truck and Bus Mechanic, Shop Foreman, Maintenance Supervisor, Dealer, Service Manager, Sales Technician, Factory Representative, and Experimental Lab Work are among those occupational opportunities awaiting graduates of the Automotive Mechanic Curriculum.

First Quarter	Class	Lab	Shop	Credit
AUT 1121 Automotive Theory and Practice	3	0	12	7
MAT 1121 Mathematics..................	5	0	0	5
ENG 1101 Reading Improvement........	2	0	0	2
PHY 1104 Physics.......................	3	2	0	4
	13	2	12	18
Second Quarter				
AUT 1122 Automotive Theory and Practice	3	0	12	7
PHY 1105 Applied Physics..............	3	2	0	4
ENG 1102 Communication Skills..........	2	0	0	2
DFT 1121 Blueprint Reading............	3	0	0	3
	11	2	12	16
Third Quarter				
AUT 1123 Automotive Theory and Practice	3	0	12	7
AUT 1101 Small Engine Repair	3	0	0	3
SOC 1101 Human Relations	2	0	0	2
WLD 1112 Welding	0	0	3	1
PHY 1106 Applied Physics..............	3	2	0	4
	11	2	15	17
Fourth Quarter				
AUT 1124 Automotive Theory and Practice	3	0	9	6
SOC 1103 Management Procedures	3	0	0	3
AUT 1125 Automotive Testing and Service	3	0	9	6
	9	0	18	15

Auto Body Repair

PURPOSE OF CURRICULUM

The field of automotive body repair and painting needs many more well-trained people to meet the growing demand for the many special skills in this area of employment. In this program, much of the students' time in the shop is devoted to learning skills and practicing these skills on car bodies and their component parts. Every attempt is made to make these practical experiences as close as possible to actual on the job situations. The practical experience and related training provide an ideal way to prepare the students for entry into an occupation that offers many job opportunities.

JOB DESCRIPTION

Graduates of the Auto Body Repair Curriculum are qualified for jobs in which they remove dents in automobile bodies and fenders; take off fenders and replace them with new ones; straighten frames, doors, hoods, and deck lids; and align wheels. In their work these craftsmen operate welding equipment. They also make tests on and repair engine cooling systems. Auto body repairmen shrink stretched metal and prepare it for painting. They are called on to paint fenders and/or panels as well as to paint a complete vehicle. In addition to these duties, auto body repairmen remove, cut, fit, and install glass. They are required to remove and install interior trim; cut, sew, and install headings and seat covers; repair and replace upholstery and fabric tops of vehicles; and rebuild springs and padding. This type of employment includes reading and interpreting blueprints, charts instruction and service manuals, and wiring diagrams. These repairmen also prepare orders for repairs and parts as well as estimates and statements for adjusters. After gaining experience, many of these craftsmen open their own businesses or become body shop foremen, supervisors, or managers.

	Hours Per Week		
First Quarter	Class	Lab	Qtr hrs.
AUT 1111 Auto Body Repair	3	12	7
MAT 1101 Fundamentals of Mathematics	5	0	5
PHY 1101 Applied Science	3	2	4
ENG 1101 Reading Improvement	2	0	2
WLD 1101 Basic Gas Welding	0	3	1
	13	17	19
Second Quarter			
AUT 1112 Auto Body Repair	3	12	7
WLD 1105 Auto Body Welding	0	3	1
DFT 1101 Schematics and Diagrams: Power Mechanics	0	3	1
PHY 1102 Applied Science	3	2	4
ENG 1102 Communication Skills	3	0	3
	9	20	16
Third Quarter			
AUT 1113 Metal Finishing and Painting	3	12	7
PSY 1101 Human Relations	3	0	3
AUT 1115 Trim, Glass & Radiator Repair	2	9	5
	8	21	15
Fourth Quarter			
AUT 1114 Body Shop Applications	3	21	10
BUS 1103 Small Business Operations	3	0	3
	6	21	13

Mechanical Drafting

This curriculum is designed to prepare students to enter the field of mechanical drafting. The first two quarters contain courses basic to fields of drafting. The third and fourth quarters contain specialization and related courses that prepare one to enter mechanical drafting occupations.

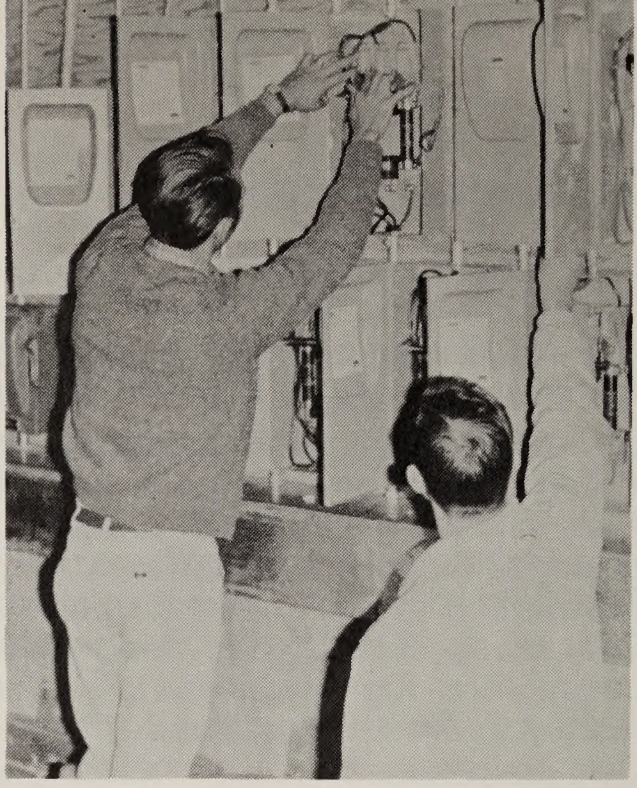
Each course is prepared to enable an individual to advance rapidly in drafting proficiency upon entering the field of work. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. The draftsman associates with many levels of personnel—administrative, architects, engineers, skilled workmen—and must be able to communicate effectively with them. Courses to develop knowledge and skills in communication, human relations, economics and industrial organization are provided to assist the student in developing understandings and confidence in his relations with other persons.

JOB DESCRIPTION

The draftsman prepares clear, complete, and accurate working plans and detail drawings from rough or detailed sketches or notes for engineering or manufacturing purposes, according to the specified dimensions: Makes final sketch of the proposed drawing, checking dimension of parts, materials to be used, the relation of one part to another, and the relation of the various parts to the whole structure. Makes any adjustments or changes necessary or desired. Inks in lines and letters on pencil drawings as required. Exercises manual skill in the manipulation of the triangle, T-square, and other drafting tools. Makes charts for representation of statistical data. Makes finished designs from sketches. Utilizes knowledge of various machines, engineering practices, mathematics, building materials, and other physical sciences to complete the drawings.

Mechanical draftsman performs the general duties of a draftsman and also specializes in making rough drafting sketches of proposed mechanical devices, and then drawing necessary details. Prepare accurate scale drawings of parts or machines from specifications.

	Hours Per Week		
First Quarter	Class	Lab	Qtr hrs.
DFT 1121 Drafting	3	12	7
MAT 1102 Algebra	3	0	3
ENG 1101 Reading Improvement	2	0	2
PHY 1101 Applied Science	3	2	4
	11	14	16
Second Quarter			
DFT 1122 Drafting	3	6	5
DFT 1125 Descriptive Geometry	2	3	3
MAT 1103 Geometry	5	0	5
ENG 1102 Communication Skills	3	0	3
PHY 1102 Applied Science	3	2	4
	16	11	20
Third Quarter			
DFT 1131 Mechanical Drafting	3	12	7
MAT 1104 Trigonometry	3	0	3
PSY 1101 Human Relations	3	0	3
MEC 1113 Shop Processes	2	3	3
MEC 1115 Strength of Materials	2	3	3
	13	18	19
Fourth Quarter			
DFT 1132 Mechanical Drafting	3	12	7
MEC 1114 Shop Processes	2	3	3
MEC 1116 Metallurgy	2	3	3
BUS 1105 Industrial Organizations	3	0	3
	10	18	16



Electrical Installation and Maintenance

The graduate of the electrical trades program will be qualified to enter an electrical trade as an on-the-job trainee or apprentice, where he will assist in the planning, layout, installation, check out, and maintenance of systems in residential, commercial, or industrial plants. He will have an understanding of the fundamentals of the National Electrical Code regulations as related to wiring installations, electrical circuits, and the measurements of voltage, current, power, and power factor of single and polyphase alternating circuits. He will have a basic knowledge of motor and motor control systems; industrial electronic control systems; business procedures, organization, and practices; communicative skills; and the necessary background to be able to advance through experience and additional training through up-grading courses offered in the School.

	Hours Per Week		
First Quarter	Class	Lab	Qtr hrs.
ELC 1112 Direct & Alternating Current	5	12	9
ENG 1101 Reading Improvement	2	0	2
MAT 1115 Electrical Mathematics	5	0	5
PHY 1101 Applied Science	3	2	4
	15	14	20
Second Quarter			
ELC 1113 Alternating Current and Direct Current Machines and Controls	5	12	9
DFT 1110 Blueprint Reading: Building Trades	0	3	1
ENG 1102 Communication Skills	3	0	3
PHY 1102 Applied Science	3	2	4
	11	17	17
Third Quarter			
ELC 1124 Residential Wiring	5	9	8
ELN 1118 Industrial Electronics	3	6	5
PSY 1101 Human Relations	3	0	3
DFT 1113 Blueprint Reading: Electrical	0	3	1
Fourth Quarter			
ELC 1125 Commercial and Industrial Wiring	5	12	9
ELN 1119 Industrial Electronics	3	6	5
BUS 1103 Small Business Operations	3	0	3
	11	18	17

Welding

PURPOSE OF CURRICULUM

This curriculum was developed to fill the tremendous need for welders in North Carolina. The recently completed Manpower Surveys shows quite clearly that many welders will be needed annually to fill present vacancies in the State.

The content of this curriculum is designed to give students sound understanding of the principles, methods, techniques, skills essential for successful employment in the welding field and metals industry.

The field of welding offers a person prestige, security, and a future of continuous employment with steady advancement. It offers employment in practically any industry: shipbuilding, automotive, aircraft, guided missiles, railroads, construction, pipe fitting, production shop, job shop, and many others.

JOB DESCRIPTION

Welders join metals by applying intense heat, and sometimes pressure, to melt the edges to form a permanent bond. Closely related to welding is "oxygen cutting." Of the more than 35 different ways of welding metals, arc, gas, and resistance welding are the three most important.

The principal duty of the welder using manual procedure is to control the melting by directing the heat, from an electric arc or gas welding torch, and to add filler metals where necessary to complete the joint. He should possess a great deal of manipulative skill with a knowledge of jigs, welding symbols, mathematics, basic metallurgy, and blueprint reading.

	Hours Per Week		
	Class	Lab	Qtr hrs.
First Quarter			
WLD 1120 Oxyacetylene Welding and Cutting	3	12	7
MAT 1101 Fundamentals of Mathematics	5	0	5
DFT 1104 Blueprint Reading: Mechanical	0	3	1
PHY 1101 Applied Science	3	2	4
ENG 1101 Reading Improvement	2	0	2
	13	17	19
Second Quarter			
WLD 1121 Arc Welding	3	12	7
MAT 1103 Geometry	3	0	3
DFT 1117 Blueprint Reading: Welding	0	3	1
PHY 1102 Applied Science	3	2	4
ENG 1102 Communication Skills	3	0	3
	12	17	18
Third Quarter			
WLD 1124 Pipe Welding	3	12	7
WLD 1123 Inert Gas Welding	1	3	2
WLD 1112 Mechanical Testing and Inspection	1	3	2
DFT 1118 Pattern Development and Sketching	0	3	1
PSY 1101 Human Relations	3	0	3
	8	21	15
Fourth Quarter			
WLD 1122 Commercial & Industrial Practices	3	9	6
WLD 1125 Certification Practices	3	6	5
MEC 1112 Machine Shop Processes	0	6	2
BUS 1105 Industrial Organizations	3	0	3
	9	21	16

Fire Service Training

The units of study are designed to increase the firefighter's technical knowledge and improve his skills in fire-ground operations.

The course outlines (units) are not listed in sequential order and may be presented according to the needs of the individual fire departments. It is suggested, however, that "Firefighting Procedures" conclude any long-range program in which all of the units are studied.

The following titles are the broad classification of material to be presented:

TIE C/O 6-1	Forcible Entry
TIE C/O 6-2	Rope Practices
TIE C/O 6-3	Portable Fire Extinguishers
TIE C/O 6-4	Ladder Practices
TIE C/O 6-5	Hose Practices
TIE C/O 6-7	Salvage and Overhaul Practices
TIE C/O 6-8	Fire Apparatus Practices
TIE C/O 6-9	Ventilation
TIE C/O 6-10	Rescue Practices
TIE C/O 6-11	Protective Breathing Equipment
TIE C/O 6-12	Firefighting Procedures

New Industry Training Programs

Training for new and expanding industry constitutes an important segment of the extension division. In cooperation with the industry involved workers may be trained for specific occupational areas. The facilities of the School are available to industries for classes, or classes under the Schools supervision may be held elsewhere.

Supervisory Development Training Program

In an effort to meet the needs of North Carolina industry, a Supervisory Development Training Program has been developed by the Department of Community Colleges.

The Supervisory Development Training Program has been developed to train persons interested in becoming supervisors and to provide instruction for supervisors at various levels of management as preparation for advancement.

Programs Available to Supervisors
I. Individual Course Program
II. Block of Course Program
III. Supervisory Development Training Diploma Program

REQUIREMENTS FOR CERTIFICATES AND DIPLOMA

Certificates and diplomas for supervisory training are awarded on the basis of the following: (1) official enrollment, (2) class participation in discussions and projects, and (3) regular attendance. Certificates and diplomas cannot be awarded to those whose attendance is less than eighty percent of the clock hours assigned to each course.

SDT Courses Currently Available:

SDT-1:		Principles of Supervision	44-48
	Part I	Fundamentals of Supervision	6-8
	Part II	Relationships on the Job	8-10
	Part III	Communications	6-8
	Part IV	How to Train Workers	6-8
	Part V	Performance and Job Evaluation	6-8
	Part VI	Job Management	6
	Part VII	Work Improvement	6
SDT-2:		Human Relations I	10
SDT-3:		Human Relations II	22
SDT-4:		Art of Motivating People	22
SDT-5:		Economics in Business and Industry	22
SDT-6:		Effective Communications	22
SDT-7:		Effective Writing	22
SDT-8:		Effective Speaking	15
SDT-9:		Reading Improvement	15
SDT-10		Work Measurement	22
SDT-11:		Job Methods	10
SDT-12:		Conference Leadership	10
SDT-13:		Instruction Training	10
SDT-14:		Creative Thinking	22
SDT-15:		Industrial Safety and Accident Prevention	22
SDT-16:		Industrial First Aid	10
SDT-17:		The Supervisor in North Carolina	10
SDT-18:		The Supervisory and Employee Benefits	10
SDT-19:		Job Analysis Training	12
SDT-20:		Cost Accounting for Supervisors	12
SDT-21:		Supervision in Hospitals	30-40

Other Short Term Courses

Salesmanship, Income Tax Procedure, Speed Reading, and any of several short courses may be offered from time to time when 10 or more persons register for these courses.

Learning Laboratory

LEARNING LABORATORY

Persons interested in participating in the Learning Laboratory, after an initial interview, are provided study materials starting at a point in keeping with their achievement level and are able to progress from there. Students may elect study time adjusted to their own convenience and schedules in that the Laboratory will be in operation on a schedule adjusted to the needs of participants.

The Fundamentals Learning Laboratory system was designed by Dr. Edward T. Brown of the North Carolina Department of Curriculum Studies and Research. Labs are operated throughout the State under the North Carolina Department of Community Colleges in cooperation with the Community Colleges, Technical Institutes, and Industrial Education Centers. At the present time, there are thirty-two Learning Laboratories in operation over the State.

A "Learning Laboratory" is essentially an individual study situation, in which any person eighteen years of age or older may undertake most any level of reading, English, math, social studies, or science that he desires. All of the material used in the lab is programmed; therefore, there is no need for a classroom teacher. In fact, Dr. Brown has attempted to remove all resemblances of a classroom from the Learning Lab.

Programmed material is designed in such a manner as to aid the student in learning information to small sequences called "Frames." Each frame requires an immediate response, and each response is immediately checked. If the student fails to learn, or learns incorrectly, the program makes the correction or re-teaches. In this manner the student progresses at his own rate; he neither has to wait for others to catch up nor slow down to someone else's rate.

The coordinator, the person in charge of the learning lab, has the responsibility of locating the level at which a student can proceed to learn by himself, of formulating the sequence of programs the students will undertake to achieve his desired goal, and of administering the tests that will assure the student that he is approaching his goal.

Because there are no classes in the learning lab, there is no need for anyone to wait until the new quarter to enroll. Each student sets his own work sessions and attends the lab as many days each week and as many hours each day as he thinks he can attend regularly. There are no fees, and any adult can take as many courses as fit his needs.

The majority of students presently enrolled in learning labs are seeking to prepare themselves for the high school equivalency examination or to gain educational improvement of their own choosing. Some, however, are enrolled to upgrade themselves for a possible job promotion, while others are using the program for reinforcement in a technical curriculum or in their college work.

The stated purposes for the existence of the learning laboratories suggest that every effort should be made to meet the needs of those who are interested in participating in the program.

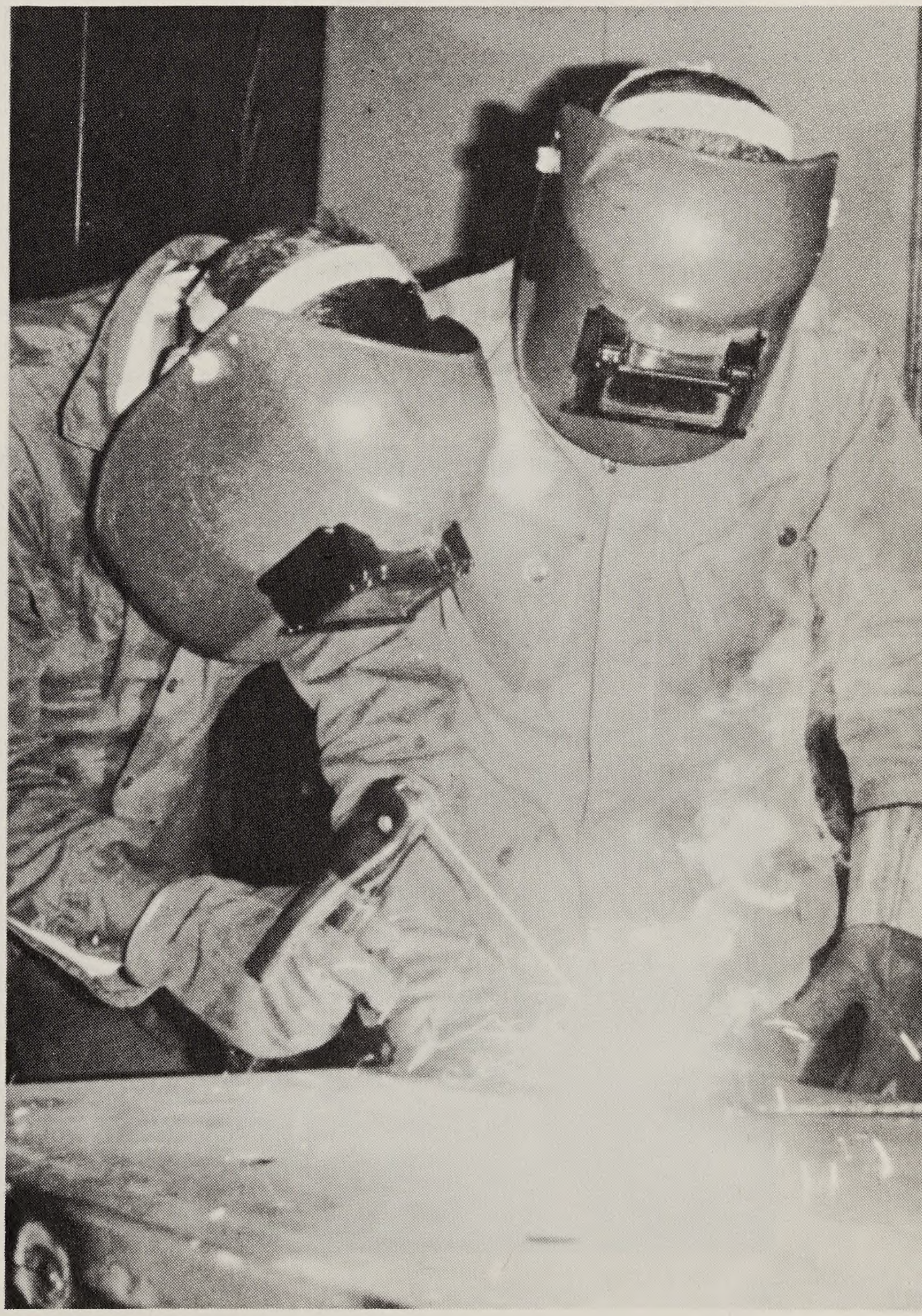
ADMISSION REQUIREMENTS FOR LEARNING LABORATORY

Any adult who has a desire to raise his or her educational level and who is able to benefit from study in the Learning Laboratory.

EXPENSES

There is no charge for study in the Learning Laboratory.

DESCRIPTION OF COURSES



BUSINESS TECHNOLOGY

T-ENG 101 GRAMMAR. Designated to aid the student in the improvement of self-expression in grammar. The approach is functional with emphasis on grammar, diction, sentence structure, punctuation, and spelling. Intended to stimulate students in applying the basic principles of English grammar in their day-to-day situations in industry and social life. Prerequisite: None.

T-ENG 102 COMPOSITION. Designated to aid the student in the improvement of self-expression in business and technical composition. Emphasis is on the sentence, paragraph and whole composition. Prerequisite: T-ENG 101.

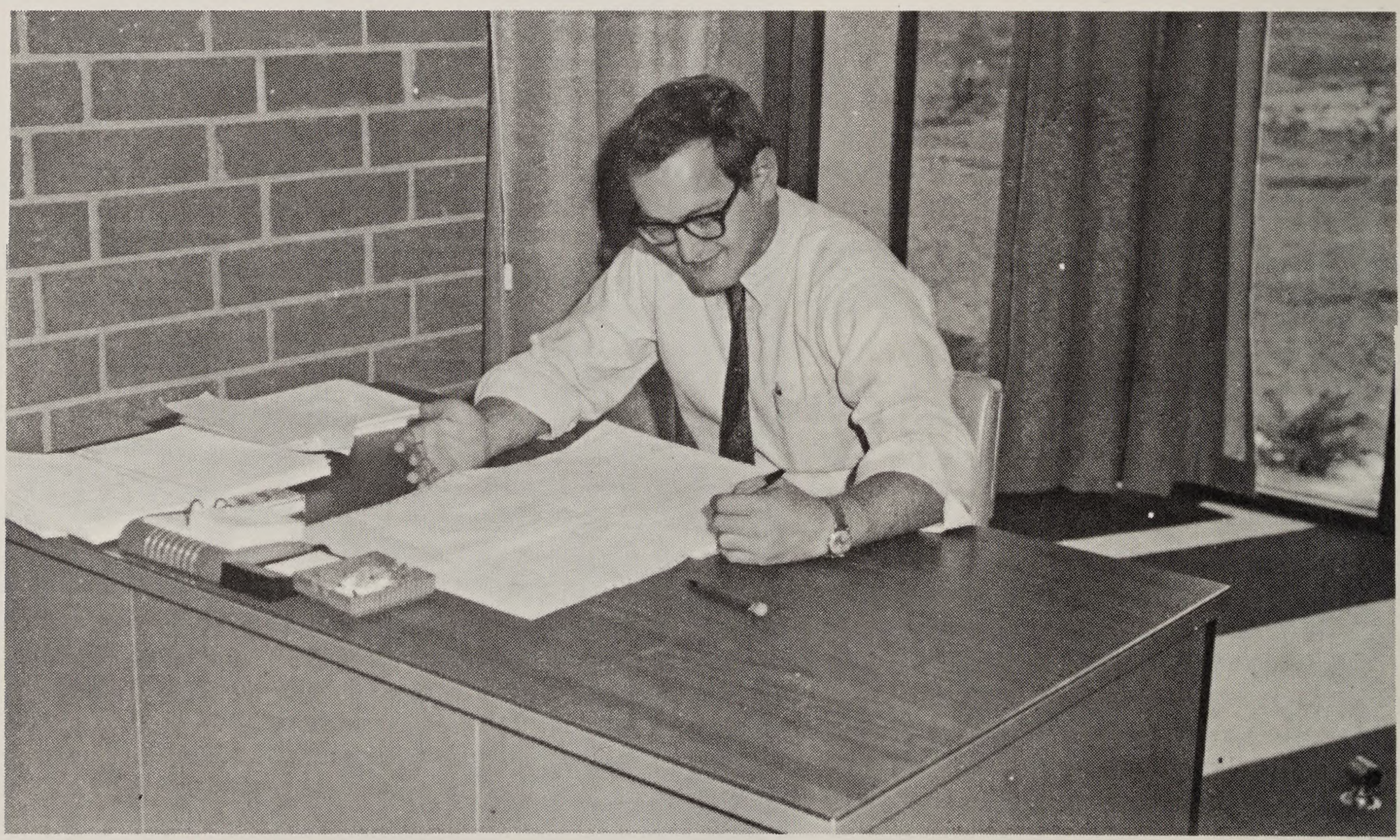
T-ENG 103 REPORT WRITING. The fundamentals of English are utilized as a background for the organization and techniques of modern report writing. Exercises in developing typical reports, using writing techniques and graphic devices are completed by the students. Practical application in the preparation for a full-length report is required of each student at the end of the term. This report must have to do with something in his chosen curriculum. Prerequisite: T-ENG 102.

T-ENG 204 ORAL COMMUNICATION. A study of basic concepts and principles of oral communications to enable the student to communicate with others. Emphasis is placed on the speaker's attitude, improving diction, voice, and the application of particular techniques of theory to correct speaking habits and to produce effective oral presentation. Particular attention given to conducting meetings, conferences, and interviews. Prerequisite: T-ENG 101.

T-ENG 206 BUSINESS COMMUNICATION. Develops skills in techniques in writing business communications. Emphasis is placed on writing action—getting sales letters and prospectuses. Business reports, summaries of business conferences, letters involving credit, collections, adjustments, complaints, orders, acknowledgements, remittances, and inquiry. Prerequisite: T-ENG 102.

T -MAT 110 BUSINESS MATHEMATICS This course stresses the fundamental operations and their application to business problems. Topics covered include payrolls, price marking, interest and discount commission, taxes, and pertinent uses of mathematics in the field of business. Prerequisite: None.

"MTI Graduate on the Job."



T-ECO 102 ECONOMICS. The fundamental principles of economics including the institutions and practices by which people gain a livelihood. Included is a study of the laws of supply and demand and the principles bearing upon production, exchange, distribution, and consumption both in relation to the individual enterprise and to society at large. Prerequisite: None.

T-ECO 104 ECONOMICS. Greater depth in principles of economics, including a penetration into the composition and pricing of national output, distribution of income, international trade and finance, and current economic problems. Prerequisite: T-ECO 102.

T-BUS 101 INTRODUCTION TO BUSINESS. A survey of the business world with particular attention devoted to the structure of the various types of business organization, methods of financing, internal organization, and management. Prerequisite: None.

T-BUS 102 TYPEWRITING I. Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts.

T-BUS 103 TYPEWRITING II. Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms. Prerequisite: T-BUS 102 or the equivalent. Speed requirement: 30 words per minute for five minutes.

T-BUS 104 TYPEWRITING III. Emphasis on production typing problems and speed building. Attention to the development of the student's ability to function as an expert typist, producing mailable copies. The production units are tabulation, manuscript, correspondence, and business forms. Prerequisite: T-BUS 103 or the equivalent. Speed requirements: 40 words per minute for five minutes.

T-BUS 106 SHORTHAND I. A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, and phrases. Prerequisite: None.

T-BUS 107 SHORTHAND II. Continued study of theory with greater emphasis on dictation and elementary transcription. For successful completion student should have grade of "C" in T-BUS 106. Prerequisite: Completion of, or enrollment in, T-ENG 101, T-BUS 106.

T-BUS 108 SHORTHAND III. Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription. For successful completion student should have grade of "C" in T-BUS 107. Prerequisite: T-BUS 107.

T-BUS 110 OFFICE MACHINES I. A general survey of the business and office machines. Students will receive training in techniques, processes, operation and application of the ten-key adding machines, full keyboard adding machines, and calculator. Prerequisite: None.

T-BUS 112 Filing. Fundamentals of indexing and filing, combining theory and practice by the use of miniature letters, filing boxes and guides. Alphabetic, Triple Check, Automatic, Geographic, Subject, Soundex, and Dewey Decimal filing. Prerequisite: None.

T-BUS 115 BUSINESS LAW I. A general course designed to acquaint the student with certain fundamentals and principles of business law, including contracts, negotiable instruments, and agencies. Prerequisite: None.

T-BUS 116 BUSINESS LAW II. Includes the study of laws pertaining to bailments, sales, risk-bearing, partnership-corporation, mortgages, and property rights. Prerequisite: T-BUS 115.

T-BUS 120 ACCOUNTING I. Principles, techniques and tools of accounting, for understanding of the mechanics of accounting. Collecting, summarizing, analyzing, and reporting information about service and mercantile enterprises, to include practical application of the principles learned. Prerequisite: T-MAT 110.

T-BUS 121 ACCOUNTING II. Partnership and corporation accounting including a study of payrolls, federal and state taxes. Emphasis is placed on recording, summarizing and interpreting data for management control rather than on bookkeeping skills. Accounting services are shown as they contribute to the recognition and solution of management problems. Prerequisite: T-BUS 120. ("C" in T-BUS 120 needed for successful completion of T-BUS 121)

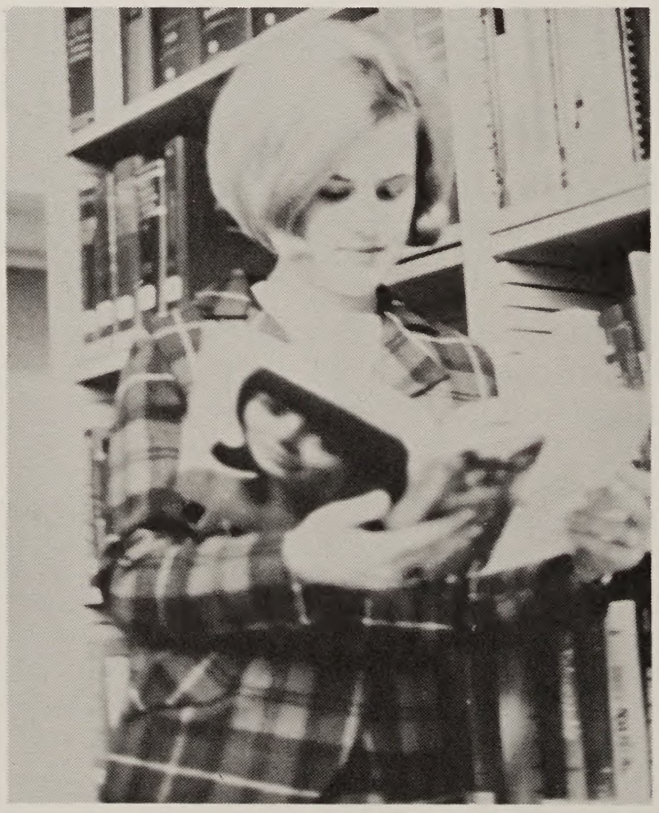
T-BUS 123 BUSINESS FINANCE I. Financing of business units, as individuals, partnerships, corporations, and trusts. A detailed study is made of short-term, long-term, and consumer financing. Prerequisite: T-BUS 120 or T-BUS 120 to be taken concurrently with T-BUS 123.

T-BUS 124 BUSINESS FINANCE II. Financing, federal, state, and local government and the ensuing effects upon the economy. Factors affecting supply of funds, monetary and credit policies. Prerequisite: T-BUS 123.

T-BUS 125 TECHNICAL COST ACCOUNTING. Technical Cost Accounting is a course designed for engineering technology students. An interrelated system of accounting, planning, controlling, and reporting for industrial enterprises. Job-order, process, and standard costing techniques will be studied. This course is not open to accounting majors. Prerequisite: None.

T-BUS 205 ADVANCED TYPEWRITING IV. Emphasis is placed on the development of individual production rates. The student learns the techniques needed in planning and in typing projects that closely approximate the work appropriate to the field of study. These projects include review of letter forms, methods of duplication, statistical tabulation, and the typing of reports, manuscripts and legal documents. Speed requirement: 50 words per minute for five minutes. Prerequisite: T-BUS 104.

T-BUS 206E DICTATION AND TRANSCRIPTION I. Develops the skill of taking dictation and of transcribing at the typewriter materials appropriate to the course of study, which includes a review of the theory and the dictation of familiar and unfamiliar material at varying rates of speed. Minimum dictation rate of 100 words per minute required for five minutes on new material. Prerequisite: T-BUS 108.



T-BUS 207E DICTATION AND TRANSCRIPTION II. Covering materials appropriate to the course of study, the student develops the accuracy, speed, and vocabulary that will enable her to meet the stenographic requirements of business and professional offices. Minimum dictation rate of 110 words per minute required for five minutes on new material. Prerequisite: T-BUS 206E.

T-BUS 208E DICTATION AND TRANSCRIPTION III. Principally a speed building course, covering materials appropriate to the course of study, with emphasis on speed as well as accuracy. Minimum dictation rate of 120 words per minute required for five minutes on new material. Prerequisite: T-BUS 207E.

T-BUS 211 OFFICE MACHINES II. Instructions in the operation of the bookkeeping-accounting machines, duplicating equipment, and the dictating and transcribing machines. Prerequisite: T-BUS 110.

T-BUS 214 SECRETARIAL PROCEDURES. Designed to acquaint the student with the responsibilities encountered by a secretary during the work day. These include the following: receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organization, and insurance claims. Prerequisite: None.

T-BUS 217 BUSINESS LAW III. A study of the powers, policies, methods, and procedures used by the various federal, state and local administrative agencies in promoting and regulating business enterprises. It includes a consideration of the constitutional and statutory limitations on these bodies and judicial review of administrative action. Prerequisite: T-BUS 116.

T-BUS 219 CREDIT PROCEDURES AND PROBLEMS. Principles and practices in the extension of credit; collection procedures; laws pertaining to credit extension and collection are included. Prerequisite: T-BUS 120.

T-BUS 222 ACCOUNTING III. Thorough treatment of the field of general accounting, providing the necessary foundation for specialized studies that follow. The course includes, among other aspects, the balance sheet, income and surplus statements, fundamental processes of recording, cash and temporary investments, and analysis of working capital. Prerequisite: T-BUS 121.

T-BUS 223 ACCOUNTING IV. Additional study of intermediate accounting with emphasis on investments, plant and equipment, intangible assets and deferred charges, long-term liabilities, paid-in capital, retained earnings, and special analytical processes. Prerequisite: T-BUS 222.

T-BUS 225 COST ACCOUNTING. Nature and purposes of cost accounting; accounting for direct labor, materials, and factory burden; job cost, and standard cost principles and procedures; selling and distribution cost; budgets, and executive use of cost figures. Prerequisite: T-BUS 121.

T-BUS 227 ADVANCED ACCOUNTING. Advanced accounting theory and principles as applied to special accounting problems, bankruptcy proceedings, estates and trusts, consolidation of statements, parent, and subsidiary accounting. Prerequisite: T-BUS 223.

T-BUS 229 TAXES. Application of federal and state taxes to various businesses and business conditions. A study of the following taxes: income, payroll, intangible, capital gain, sales and use, excise, and inheritance. Prerequisite: T-BUS 121.

T-BUS 232 SALES DEVELOPMENT. A study of retail, wholesale and specialty selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations required. Prerequisite: None.

T-BUS 233 PERSONNEL MANAGEMENT. Principles of organization and management of personnel, procurement, placement, training, performance checking, supervision, remuneration, labor relations, fringe benefits and security. Prerequisite: None.

T-BUS 235 BUSINESS MANAGEMENT. Principles of business management including overview of major functions of management, such as planning, staffing, controlling, directing, and financing. Clarification of the decision-making function versus the operating function. Role of management in business — qualifications and requirements. Prerequisite: None.

T-BUS 237 WHOLESALING. The development of wholesaling; present day trends in the United States. A study of the functions of wholesaling. Prerequisite: None.

T-BUS 239 MARKETING. A general survey of the field of marketing, with a detailed study of the functions, policies, and institutions involved in the marketing process. Prerequisite: None.

T-BUS 243 ADVERTISING. The role of advertising in a free economy and its place in the media of mass communications. A study of advertising appeals; product and market research; selection of media; means of testing effectiveness of advertising. Theory and practice of writing advertising copy for various media. Prerequisite: None.

T-BUS 245. RETAILING. A study of the role of retailing in the economy including development of present retail structure, functions performed, principles governing effective operation and managerial problems resulting from current economic and social trends. Prerequisite: None.

T-BUS 247 BUSINESS INSURANCE. A presentation of the basic principles of risk insurance and their application. A survey of the various types of insurance is included. Prerequisite: None.

T-BUS 255 INTERPRETING ACCOUNTING RECORDS. Designed to aid the student in developing a "use understanding" of accounting records, reports and financial statements. Interpretation, analysis, and utilization of accounting statements. Prerequisite: T-BUS 121.

T-BUS 266 BUDGET AND RECORD KEEPING. The basic principles, methods, and procedures for preparation and operation of budgets. Special attention is given to the involvement of individual departments and the role they play. Emphasis on the necessity for accurate record keeping in order to evaluate the effectiveness of budget planning. Prerequisite: T-BUS 121.

T-BUS 269 AUDITING. Principles of conducting audits and investigations; setting up accounts based upon audits; collecting data on working papers; arranging and systemizing the audit, and writing the audit report. Emphasis placed on detailed audits, internal auditing, and internal control. Prerequisite: T-BUS 223.

T-BUS 271 OFFICE MANAGEMENT. Presents the fundamental principles of office management. Emphasis on the role of office management including its functions, office automation, planning, controlling, organizing and actuating office problems. Prerequisite: None.

T-BUS 272 PRINCIPLES OF SUPERVISION. Introduces the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates, and associate. Emphasis on securing an effective work force and the role of the

T-BUS 280 TRAFFIC AND TRANSPORTATION. Stresses through-route and rates, milling in transit, technical tariff and rate interpretation, overcharges and undercharges, loss and damage, import and export tariff, classification committee procedure, and rate committee procedures.

T-BUS 281 TRAFFIC AND TRANSPORTATION. To acquaint the student with the application of the Interstate Commerce Act to practical transportation and the general procedure of requesting changes before the Interstate Commerce Commission. Prerequisite: T-BUS 280.

T-BUS 285 ICC LAW. Designed to aid the student in making a thorough analysis of the Interstate Commerce Act; review history of Act and related acts. Prerequisite: T-BUS 116.

T-BUS 286 ICC LAW. A detailed study is made of the procedural policy involved in appearing before the Interstate Commerce Commission. Prerequisite: T-BUS 285.

"MTI Graduate at work."

T-BUS 287 ICC LAW. Devoted to case study of applications of the Interstate Commerce Act. Prerequisite: T-BUS 286.

T-BUS 290 MOTOR CARRIER. An introduction to special problems relating to tariffs and rates of motor carriers. Prerequisite: None.

T-BUS 291 MOTOR CARRIER. A continuation of special problems relating to tariffs, rates, circulars, pertaining to the Motor Carrier field. Prerequisite: T-BUS 290.

T-BUS 295 TRAFFIC CLAIMS. Designed to provide knowledge about rights and liablities of carriers. consigners, and consignees; claims, their procedure, settlement, and prevention. Prerequisite: None.

T-BUS 299 TRAFFIC MANAGEMENT. Develops the purpose, function, and operation of traffic management; illustrates the differences in various areas of traffic; and shows relationship to other business operations. Prerequisite: None.

Bus 1103 SMALL BUSINESS OPERATIONS. An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations. Prerequisite: None.

BUS 1105 INDUSTRIAL ORGANIZATIONS. Methods, techniques, and practices of modern management in planning, organizing and controlling operations of a manufacturing concern. Introduction to the competitive system and the factors constituting product cost. Prerequisite: None.

Vocational Related Courses

DFT 1121 BLUEPRINT READING. Interpretation and reading of blueprints used by industry. A course designed to develop the ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes. Prerequisite: None.

DFT 1122 BLUEPRINT READING. Interpretation and reading of blueprints used by industry. Information on basic principles of the blueprint; lines, views, dimensioning procedures and notes. Prerequisite: None.

DFT 1123 BLUEPRINT READING. Further practice in interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operations; passing on ideas, information, and processes. Prerequisite: DFT 1122.

DFT 1307 GENERAL DRAFTING. An introductory course in drafting for students needing a knowledge of drawing principles and practices for reading describing objects in the graphic language. The student is expected to gain basic skills in drawing with instruments, lettering, geometrical constructions, freehand sketching, and describing objects orthographically with principal views. Freehand sketching and orthographic reading are to be emphasized.

ENG 1101 READING IMPROVEMENT. A concentrated effort to improve the student's ability to comprehend what he reads by training him to read more rapidly and accurately. The tachistoscope is used for class drill to broaden the span of recognition, to increase eye coordination and word group recognition, and to train for comprehension in larger units. Reading faults of the individual are analyzed for improvement, and principles of vocabulary building are stressed.

ENG 1102 COMMUNICATION SKILLS. Development to the trainee's ability to communicate effectively with other individuals through the medium of good language usage in speaking and writing, to think more clearly, and to reason more forcefully in work problems pertaining to his job.

ENG 1103 REPORT WRITING. Brief review of English grammar, spelling, and punctuation. Concentrated effort will be applied to the fundamentals of good writings; sentence structure, proper development of descriptive reporting, and the mechanics of report construction. Practice in writing letters and various report forms will be given and some time will be devoted to oral speech and note taking.

MAT 1000 ESTIMATING. This course is designed to give the student a basic understanding of estimating building materials from a blueprint, with emphasis on his major field.

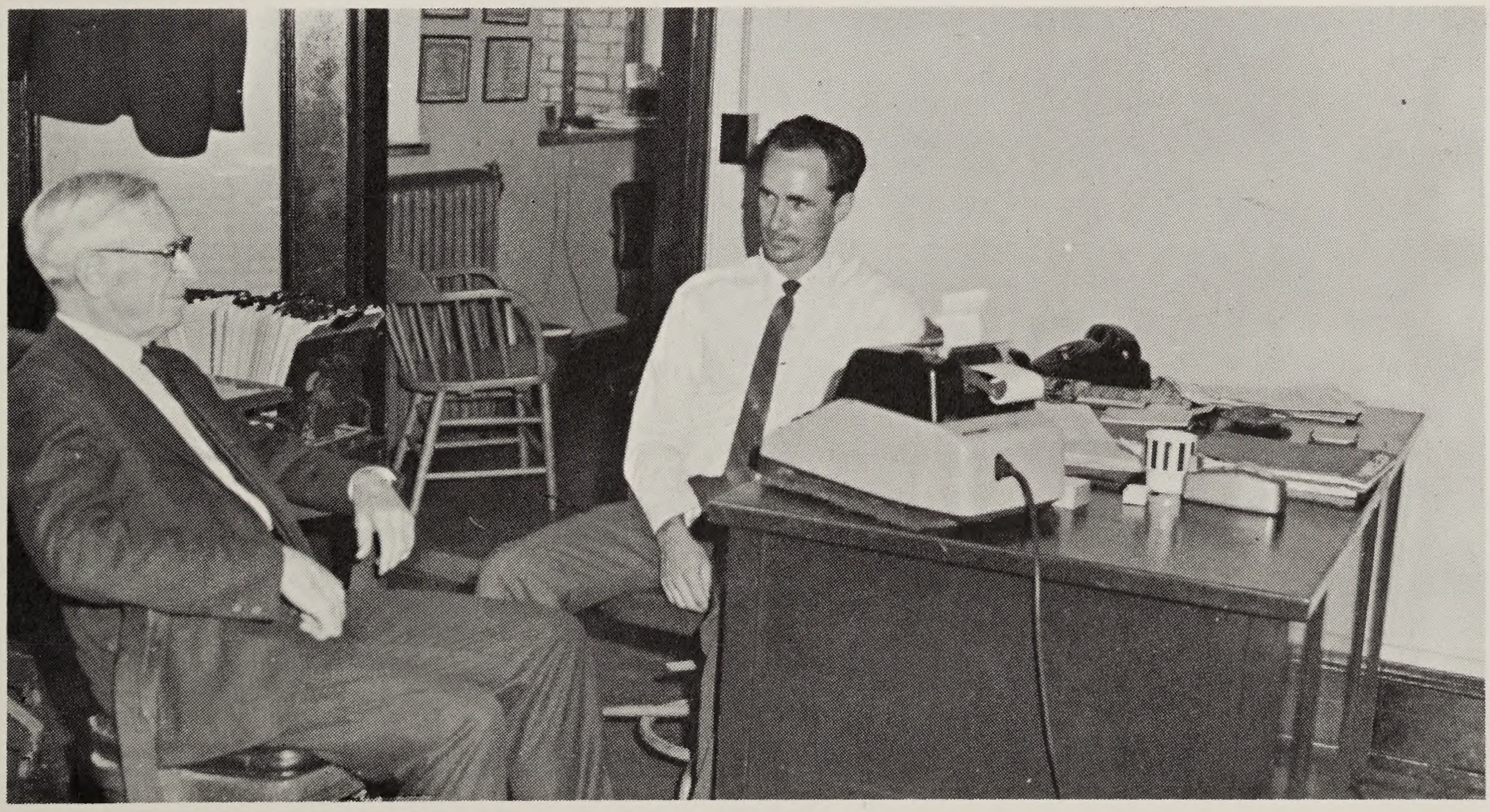
MAT 1120 FUNDAMENTALS OF MATHEMATICS. Practical number theory. Analysis of basic operations, addition, subtraction, multiplication and division. Fractions, decimals, powers and roots, percentages, ratio and proportion. Plane and solid geometric figures used in industry; measurement of surfaces and volumes. Introduction to algebra used in trades. Practice in depth.

MAT 1121 MATHEMATICS. Review of fundamental number concepts, operations, and systems of measurement. Mathematical situations dealing with common and decimal fractions, powers and roots, ratio and proportions, and percentages. A study of algebraic and geometric principles and concepts needed in understanding calculations, formulas, solution of equations, and selected plane and solid geometric forms. Prerequisite: None.

MAT 1122 MATHEMATICS. Foundation for a better understanding of applied mathematics. This course is a review of simple mathematical situations dealing with fractions, decimals, conversion of one to the other, short methods and checks, percentages and applications, ratio and proportion, and powers and roots. It will also present an introduction to axiomatic solution of equations and includes special products and factoring, algebraic fractions and their applications to equations. Prerequisites: None.

MAT 1123 MATHEMATICS. Fundamental geometric concepts and construction of plane and solid figures, surface and volume measurements, and related problems; introduction to trigonometry of the right triangle. Introduces gear ratio, lead screw and indexing problems with emphasis on application to the machine

MTI Graduate discusses County business with commissioner



shop. Practical applications and problems will furnish the trainee with experience over the wide range of geometric propositions and trigonometric relations in shop problems, concluded by an introduction to compound angle problems. Prerequisite: MAT 1122.

MAT 1124 ALGEBRA. Basic concepts and operations of algebra; historical background of our base-10 number system; algebraic operations: addition, subtraction, multiplication and division; fractions, letter representation, grouping, factoring, ratio and proportions; variation; graphical and algebraic solution of first degree equations; solutions of simultaneous equations by: addition and subtraction, substitution, graphing; exponents, logarithms, tables and interpolation.

MAT 1126 TRIGONOMETRY. Trigonometric ratios; solving problems with right triangles, using tables, and interpolating; solution of oblique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations. All topics are applied to practical problems.

MAT 1200 ADVANCED ESTIMATING AND LAYOUT. This course is designed to give detailed methods of estimating and use of the builders level and transit in layout work. Prerequisite: MAT 1000.

WLD 1112 WELDING. Demonstration by the instructor and practice by student in the welding shop. Safe and correct methods of assembly and operating the welding outfit will be emphasized. Practice will be given for surface welding, bronze welding, silver brazing, and flame cutting methods applicable to mechanical repair work. Prerequisite: None.

WLD 1114 SHOP PROCESSES. Comparison of the unit-production and mass-production systems. Casting, forging and allied processes, welding and sheet metal working processes are demonstrated and discussed. Mass-production methods are studied in relationship to precision dimensional control. Prerequisite: WLD 1112.

PHY 1104 APPLIED PHYSICS I. Introductory course in physics, and its applications. Covers systems of measurement, theory of matter, properties of solids, liquids, and gases. Prerequisite: None.

PHY 1105 APPLIED PHYSICS II. Basic principles of electricity, types of electricity, and its production, transmission, and transformation. Such factors as the electron theory, electrial measurement, magnetism, electromagnetism, and the magnetic effects of electricity constitute major areas of study. Prerequisite: PHY 1104.

PHY 1106 APPLIED PHYSICS III. Physical principles of force, energy, work and power; equilibrium and the laws of motion; principles of machines, mechanical advantage, and transmission of power in practical applications and the use of vectors and graphical presentations.

SOC 1101 HUMAN RELATIONS. The purpose of the course is to help the student acquire greater understanding of his relations to other persons through learning and applying some of the basic principles of human psychology. The problems of the individual and his work situation are studied in relation to the established organization of modern business and industry and in relation to government practices and labor organization, with special emphasis on the operating responsibilities of good management.

SOC 1103 MANAGEMENT PROCEDURES. Management procedures are developed to familiarize the prospective businessman with the many important functions that must be carried on in the operation of a small business or enterprise. An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations are some of the subjects studied.

Automotive Mechanics

AUT 1121 AUTOMOTIVE THEORY AND PRACTICE—ENGINES. Designed to give the student a thorough knowledge in the use, maintenance, and storage of the various tools and measuring devices needed in automotive work. A study of the construction and operation of components of automotive engines. The student will learn testing of engine performance, servicing and maintenance for pistons, valves, cams and camshafts, fuel and exhaust systems, cooling systems; proper lubrication; and methods of testing, diagnosing and repairing of failure and defects in the various engine mechanisms. Prerequisite: None.

AUT 1122 AUTOMOTIVE THEORY AND PRACTICE—ELECTRICAL AND FUEL SYSTEMS. A thorough study of the electrical and fuel systems of the automobile, the electrical system and its components; battery cranking mechanism, generator, ignition, accessories, and wiring. Intensive training in the components and operation of various types of automotive fuel systems. Characteristics of fuels and types of fuel systems for which they are best adapted. The special tools, circuits, and testing equipment for the fuel and electrical system are studied. Prerequisite: AUT 1121.

AUT 1123 AUTOMOTIVE THEORY AND PRACTICE—CHASSIS AND SUSPENSIONS. Principals and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of the suspension, steering, and braking systems. Units to be studied will be shock absorbers, springs, steering systems, steering linkage, front end adjustments, types and servicing of brakes, etc. Prerequisite: AUT 1121, 1122.

AUT 1101—SMALL ENGINE REPAIR. The purpose of this course is to teach the why and how of gasoline engine operations. A careful study of the theory and operating principles, plus actual practice in servicing and repairing engines will enable anyone to minimize engine troubles and to correct those troubles that do exist. The course will in general deal with small engines. Multicylinder engines will be included.

AUT 1124 AUTOMOTIVE THEORY AND PRACTICE—POWER TRAIN. Detailed analysis of the components of the automotive power train system, with the emphasis on identification of troubles which develop in these components and the correct servicing and repair. Included are: types of clutches, clutch operation, inspection and servicing clutches; functions of the transmission gears, principles and operation of the various transmission and torque converter types, service and repair; operation, diagnosis and servicing for drive shaft assemblies, rear axles, and differentials. Prerequisites: PHY 1105; 1106; AUT 1121, 1122, 1123.

AUT 1125 AUTOMOTIVE TESTING AND SERVICE. Emphasis is on the shop procedure necessary in determining the nature of troubles developed in the various component systems of the automobile. Extensive use of testing equipment will be made on the actual problem situations. A close simulation to the actual automotive shop will be maintained and every effort will be made to give the student a full range of testing and servicing experience. Prerequisites: AUT 1121, 1122, 1123, 1124.

AUT 1111 AUTO BODY REPAIR. Basic principles of automobile construction, design, and manufacturing. A thorough study of angles, crown, and forming of steel into the complex contour of the present day vehicles. The student applies the basic principles of straightening, aligning, and painting of damaged areas. Prerequisite: None.

WLD 1101 BASIC GAS WELDING. Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment. Practice will be given for surface welding; bronze welding, silver-soldering, and flame-cutting methods applicable to mechanical repair work. Prerequisite: None.

AUT 1112 AUTO BODY REPAIR. A through study of the requirements for a metal worker, including the use of essential tools, forming fender flanges and beads, and straightening typical auto body damage. The student begins acquiring skills such as shaping angles, crowns, and contour of the metal of the body and fenders. Metal working and painting. Prerequisites: AUT 1111, WLD 1101, PHY 1101, MAT 1101.

WLD 1105 AUTO BODY WELDING. Welding practices on material applicable to the installation of body panels and repairs to doors, fenders, hoods, and deck lids. Student runs beads, does butt and fillet welding. Performs tests to detect strength and weaknesses of welded joints. Safety procedures are emphasized throughout the course. Prerequisite: WLD 1101.

DFT 1101 SCHEMATICS AND DIAGRAMS: POWER MECHANICS. Interpretation and reading of schematics and diagrams. Development of ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes. Prerequisite: None.

AUT 1113 METAL FINISHING AND PAINTING. Development of the skill to shrink stretched metal, soldering and leading, and preparation of the metal for painting. Straightening of doors, hoods, and deck lids; fitting and aligning. Painting fenders and panels, spot repairs, and complete vehicle painting; the use and application of power tools. Prerequisites: AUT 1112, WLD 1105.

AUT 1115 TRIM, GLASS AND RADIATOR REPAIR. Methods of removing and installing interior trim; cutting, sewing and installing headlinings, seat covers, and door trim panels; painting of trim parts and accessories. Glass removal, cutting, fitting, and installation. The student gains a thorough knowledge of the engine cooling system and repairs and replaces damaged cooling system components. Tests are made to insure normal engine cooling operation. Prerequisites: AUT 1112, WLD 1105.

AUT 1114 BODY SHOP APPLICATIONS. General introduction and instruction in the automotive frame and front end suspension systems, the methods of operation and control, and the safety of the vehicle. Unit job application covers straightening of frames and front wheel alignment. The student applies all phases of training. Repair order writing, parts purchasing, estimates of damage, and developing the final settlement with the adjuster. Prerequisites: AUT 1115, PHY 1102, DFT 1101.

Mechanical Drafting

DFT 1121 DRAFTING. An introduction to drafting and the study of drafting practices. Instruction is given in the selection, use and care of instruments, single-stroke lettering, applied geometry, freehand sketching consisting of orthographic and pictorial drawings. Orthographic projection, reading and instrument drawings of principal views, single auxiliary views (primary), and double (oblique) auxiliary views will be emphasized. Dimensioning and note practices will be studied with reference to the American Standards Association practices. Methods of reproducing drawings will be included at the appropriate time. Prerequisite: None.

MAT 1103 GEOMETRY. Fundamental properties and definitions; plane and solid geometric figures, selected general theorems, geometric construction of lines, angles and plane figures. Dihedral angles, areas of plane figures, volumes of solids. Geometric principles are applied to shop operations. Prerequisite: None.

ENG 1101 READING IMPROVEMENT. Designed to improve the student's ability to read rapidly and accurately. Special machines are used for class drill to broaden the span of recognition, to increase eye coordination and word group recognition and to train for comprehension in larger units. Prerequisite: None.

PHY 1101 APPLIED SCIENCE. An introduction to physical principles and their application to industry. Topics in this course include measurement; properties of solids, liquids, and gases; basic electrical principles. Prerequisite: None.

DFT 1122 DRAFTING. The trainee will study simple and successive revolutions and their applications to practical problems. Sections and conventions will be studied and both detail and assembly sections will be drawn. Intersections and developments will be studied by relating the drawing to the sheet metal trades. Models of the assigned drawings will be made from construction paper, cardboard, or similar materials as a proof of the solution to the problems drawn.

Methods of drawing and projecting axonometric, oblique, and perspective drawings will be studied with emphasis on the practical applications of pictorial drawings. Various methods of shading will be introduced and dimensioning and sectioning of obilque and axonometric pictorials will be done. Prerequisite: DFT 1121.

DFT 1125 DESCRIPTIVE GEOMETRY. Graphical analysis of space problems. The problems deal with practical design elements involving points, lines, planes, connectors, and a combination of these. Included are problems dealing with solid geometry theorems. Where applicable, each graphical solution shall be accomplished by the analytical solution. Prerequisite: DFT 1121.

MAT 1102 ALGEBRA. Basic concepts and operations of algebra: historical background of our base-10 number system; algebraic operations: addition, substraction, multiplication and division; fractions, letter representation, grouping, factoring, ratios and proportions, variation; graphical and algebraic solution of first degree equations; solution of simultaneous equations by: addition and subractbtion, substitution, graphing; exponents, logarithms, tables and interpolation. Prerequisite: None.

ENG 1102 COMMUNICATION SKILLS. Designed to promote effective communication through correct language usage in speaking and writing. Prerequisite: ENG 1101.

PHY 1102 APPLIED SCIENCE. The second in a series of two courses of applied physical principles. Topics introduced in this course are heat and thermometry, and principles of force, motion, work, energy, and power. Prerequisite: PHY 1101.

DFT 1131 MECHANICAL DRAFTING. An introduction to mechanical drafting beginning with problems concerning precision and limit dimensioning. Methods of fastening materials, and fasteners, keys, rivets, springs, and welding. Symbols will be studied and drawings will be made involving these items. Principles of design will be introduced with the study of basic mechanisms of motion transfer; gears, cams, power trains, pulleys, belting and methods of specifying and calculating dimensions will be studied. Drawings will be made involving these mechanisms. Prerequisite: DFT 1122.

MAT 1104 TRIGONOMETRY. Trigonometric ratios; solving problems with right triangles, using tables, and interpolating; solution of obilique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations. All topics are applied to practical problems. Prerequisites: MAT 1102, MAT 1103.

MEC 1113 SHOP PROCESSES (Materials and Processes). A study of practices and processes used in the shaping, forming, and fabrication of wood, metal, plastics, and ceramics. The properties of these materials and their utilization in the various industries. A study of the various industries. A study of the various machines used in the forming of these materials and their capabilities. Practices used in fastening and forming these materials. Demonstrations of methods, machines, and processes.

DFT 1132 MECHANICAL DRAFTING. Principles of design sketching, design drawings, layout drafting, detailing from layout drawings, production drawings and simplified drafting practices constitute areas of study. Forging and casting drawings will be made from layouts. Specifications, parts list and bill of materials are emphasized in this course. The student will develop a complete set of working drawings of a tool, jig, fixture or simple machine and learn principles of design, handbook and manual usage. Prerequisite: DFT 1131.

MEC 1114 SHOP PROCESSES. Comparison of the unit-production and mass-production systems. Casting, forging and allied processes, welding and sheet metal working processes are demonstrated and discussed. Mass-production methods are studied in relationship to precision dimensional control. Prerequisite: MEC 1113.

MEC 1115 TREATMENT OF FERROUS METALS. Investigates the properties of ferrous metals and tests to determine their uses. Instruction will include some chemical metallurgy to provide a background for the understanding of the physical changes and causes of these changes in metals. Physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments for steel, surface treatments, alloy of special steel, classification of steels, and cast iron will be topics for study. Prerequisite: None.

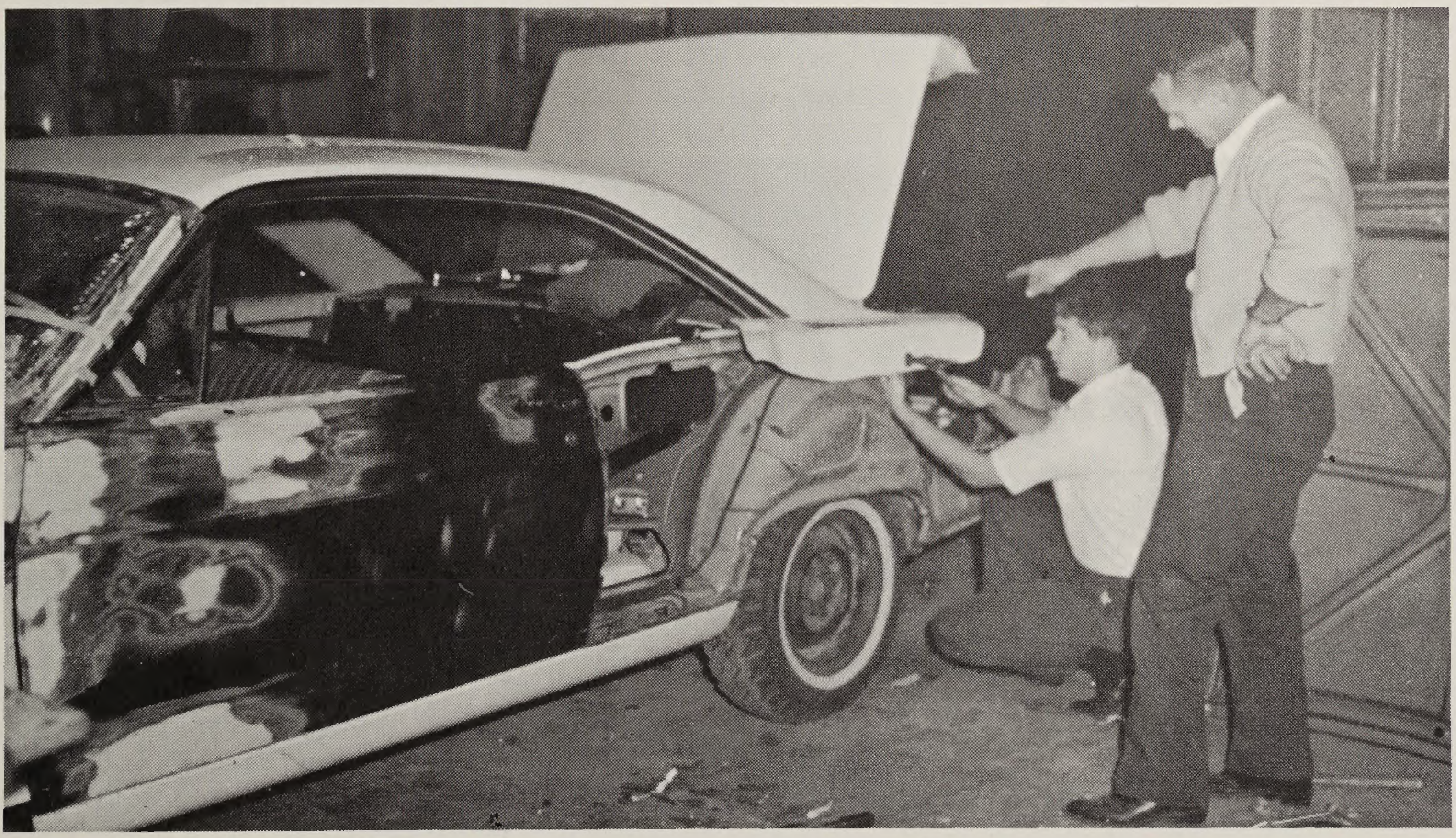
BUS 1105 INDUSTRIAL ORGANIZATIONS. Methods, techniques, and practices of modern management in planning, organizing and controlling operations of a manufacturing concern. Introduction to the competitive system and the factors constituting product cost. Prerequisite: None.

Electrical Installation & Maintenance

ELC 112 DIRECT AND ALTERNATING CURRENT. A study of the electrical structure of matter and electron theory, the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits. An analysis of direct current circuits by Ohm's Law and Kirchhoff's Law. A study of the sources of direct current voltage potentials. Fundamental concepts of alternating current flow, reactance, impedance, phase angle, power, and resonance. Analysis of alternating current circuits. Prerequisite: None.

MAT 1115 ELECTRICAL MATH. A study of fundamental concepts of algebra; basic operations of addition, subtraction, multiplication, and division; solution of first order equations, use of letters and signs; grouping, factoring, exponents, ratios, and proportions; solution of equations, algebraically and graphically; a study of logarithms and use of tables; and introduction to trigonometric functions and their application to right angles; and a study of vectors for use in alternating current. Prerequisite: None.

ELC 1113 ALTERNATING CURRENT AND DIRECT CURRENT MACHINES AND CONTROLS. Provides fundamental concepts in single and polyphase alternating current circuits, voltages, currents, power measurements, transformers, and motors. Instruction in the use of electrical test instruments in circuit analysis. The basic concepts of AC and DC machines and simple system controls. An introduction to the type control used in small appliances such as: thermostats, timers, or sequencing switches. Prerequisites: ELC 1112, MAT 1115.



DFT 1110 BLUEPRINT READING: BUILDING TRADES. Principles of interpreting blueprints and trade specifications common to the building trades. Development of proficiency in making three view and pictorial sketches. Prerequisite: None.

ENG 1102 COMMUNICATION SKILLS. Designed to promote effective communication through correct language usage in speaking and writing. Prerequisite: ENG 1101.

ELC 1124 RESIDENTIAL WIRING. Provides instruction and application in the fundamentals of blueprint reading, planning, layout, and installation of wiring in residential applications such as: services, switchboards, lighting, fusing, wire sizes, branch circuits, conduits, National Electrical Code regulations in actual building mock-ups. Prerequisites: ELC 1113, DFT 1110.

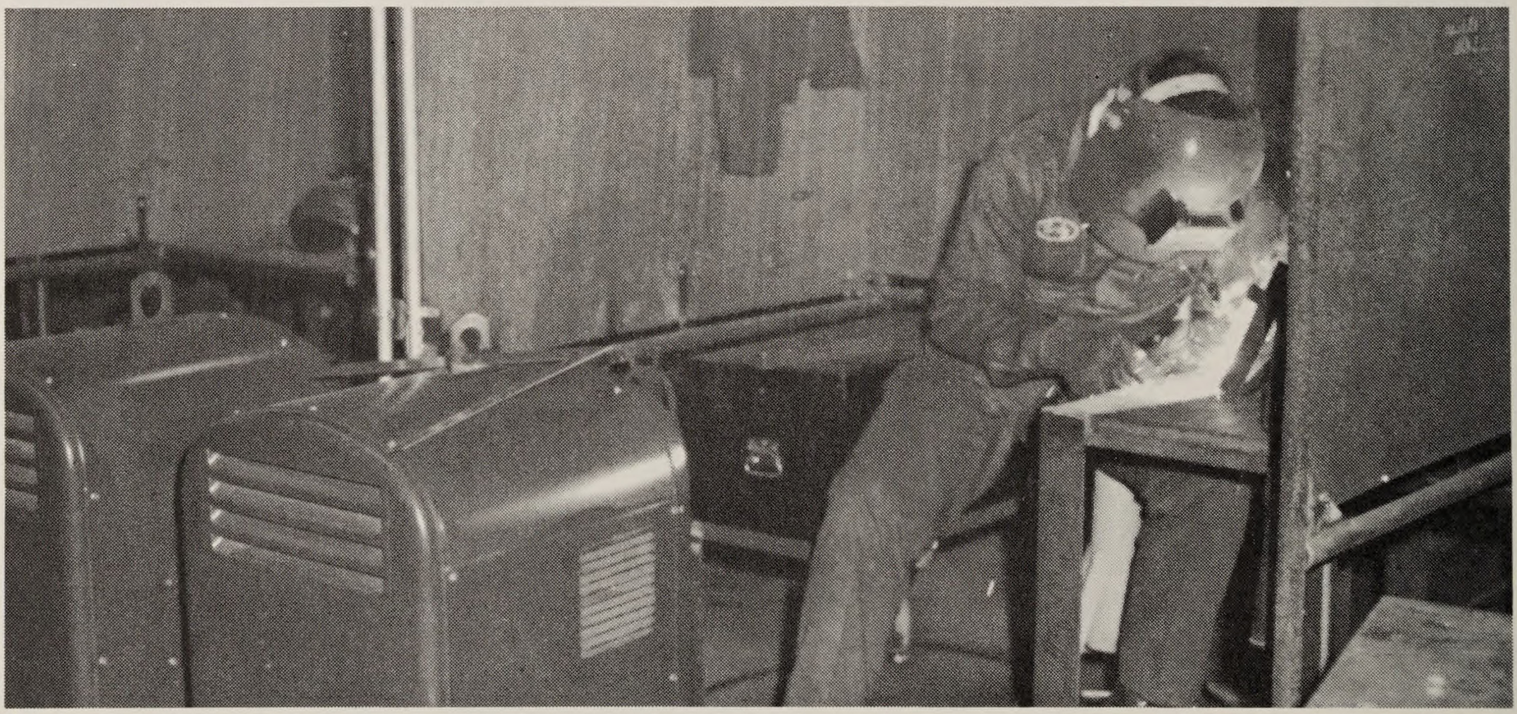
ELN 1118 INDUSTRIAL ELECTRONICS. Basic theory, operating characteristics, and application of vacuum tubes such as: diodes, triodes, tetrodes, pentodes, and gaseous control tubes. An introduction to amplifier using triodes, power supplies using diodes, and other basic applications. Prerequisite: ELC 1113.

DFT 113 BLUEPRINT READING: Electrical. Interpretation of schematics, diagrams and blueprints applicable to electrical installations with emphasis on electrical plans for domestic and commercial buildings. Sketching schematics, diagrams and electrical plans for electrical installations using appropriate symbols and notes according to the applicable codes will be a part of this course. Prerequisite: DFT 1110.

ELC 1125 COMMERCIAL AND INDUSTRIAL WIRING. Layout, planning, and installation of wiring systems in commercial and industrial complexes, with emphasis upon blueprint reading and symbols, the related National Electrical Codes, and the application of the fundamentals to practical experience in wiring, conduit preparation, and installation of simple systems. Prerequisites: ELN 1118, ELC 1124.

ELN 1119 INDUSTRIAL ELECTRONICS. Basic industrial Electronic systems such as: motor controls, alarm systems, heating systems and controls, magnetic amplifier controls, welding control systems using thyratron tubes, and other basic types of systems commonly found in most industries. Prerequisite: ELN 1118.

BUS 1103 SMALL BUSINESS OPERATIONS. An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations. Prerequisite: None.



Welding

WLD 1101 BASIC GAS WELDING. Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment. Practice will be given for surface welding; bronze welding, silver-soldering, and flame-cutting methods applicable to mechanical repair work. Prerequisite: None.

WLD 1112 MECHANICAL TESTING AND INSPECTION. The standard methods of mechanical testing of welds. The student is introduced to the various types of tests and testing procedures and performs the details of the test which will give adequate information as to the quality of the weld. Types of tests to be covered are: bend, destructive, free-bend, guided-bend, nick-tear, notched-bend, tee-bend, nondestructive, V-notch, Charpy impact, etc. Prerequisites: WLD 1120, WLD 1121.

WLD 1120 OXACETYLENE WELDING AND CUTTING. Introduction to the history of oxyacetylene welding, the principles of welding and cutting, nomenclature of the equipment, assembly of units. welding procedures such as practice of puddling and carrying the puddle, running flat beads, butt welding in the flat, vertical and overhead position, brazing, hard and soft soldering. Safety procedures are stressed through the program of instruction in the use of tools and equipment. Students perform mechanical testing and inspection to determine quality of the welds. Prerequisite: None.

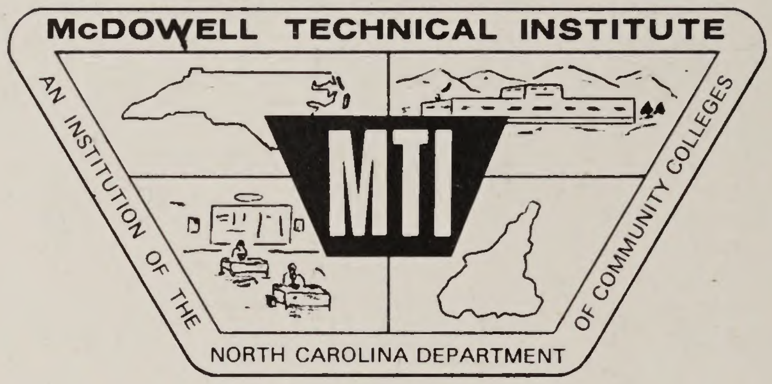
WLD 1121 ARC WELDING. The operation of AC transformers and DC motor generator arc welding sets. Studies are made of welding heats, polarities, and electrodes for use in joining various metal alloys by the arc welding process. After the student is capable of running beads, butt and fillet welds in all positions are made and tested in order that the student may detect his weaknesses in welding. Safety procedures are emphasized throughout the course in the use of tools and equipment. Prerequisite: None.

WLD 1122 COMMERCIAL AND INDUSTRIAL PRACTICE. Designed to build skills through practices in simulated industrial processes and techniques: sketching and laying out on paper the size and shape description, listing the procedure steps necessary to build the product, and then actually following these directions to build the product. Emphasis is placed on maintenance, repairing worn or broken parts by special welding applications, field welding and nondestructive tests and inspection. Prerequisites: WLD 1120, WLD 1121.

WLD 1123 INERT GAS WELDING. Introduction and practical operations in the use of inert-gas-shield arc welding. A study will be made of the equipment, operation, safety and practice in the various positions. A thorough study of such topics as: principles of operation, shielding gases, filler rods, process variations and applications, manual and automatic welding. Prerequisites: WLD 1120, WLD 1121.

WLD 1124 PIPE WELDING. Designed to provide practice in the welding of pressure piping in the horizontal, vertical, and horizontal fixed position using shielded metal arc welding processes according to Sections VIII and IX of the ASME code. Prerequisite: WLD 1121.

WLD 1125 CERTIFICATION PRACTICES. This course involves practice in welding the various materials to meet certification standards. The student uses various tests including the guided bend and the tensile strength tests to check the quality of his work. Emphasis is placed on attaining skill in producing quality welds. Prerequisites: WLD 1120, WLD 1121, WLD 1123, WLD 1124.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